

FEBRUARY 1, 1960

PURCHASING

The Methods and News Magazine for Industrial Buyers

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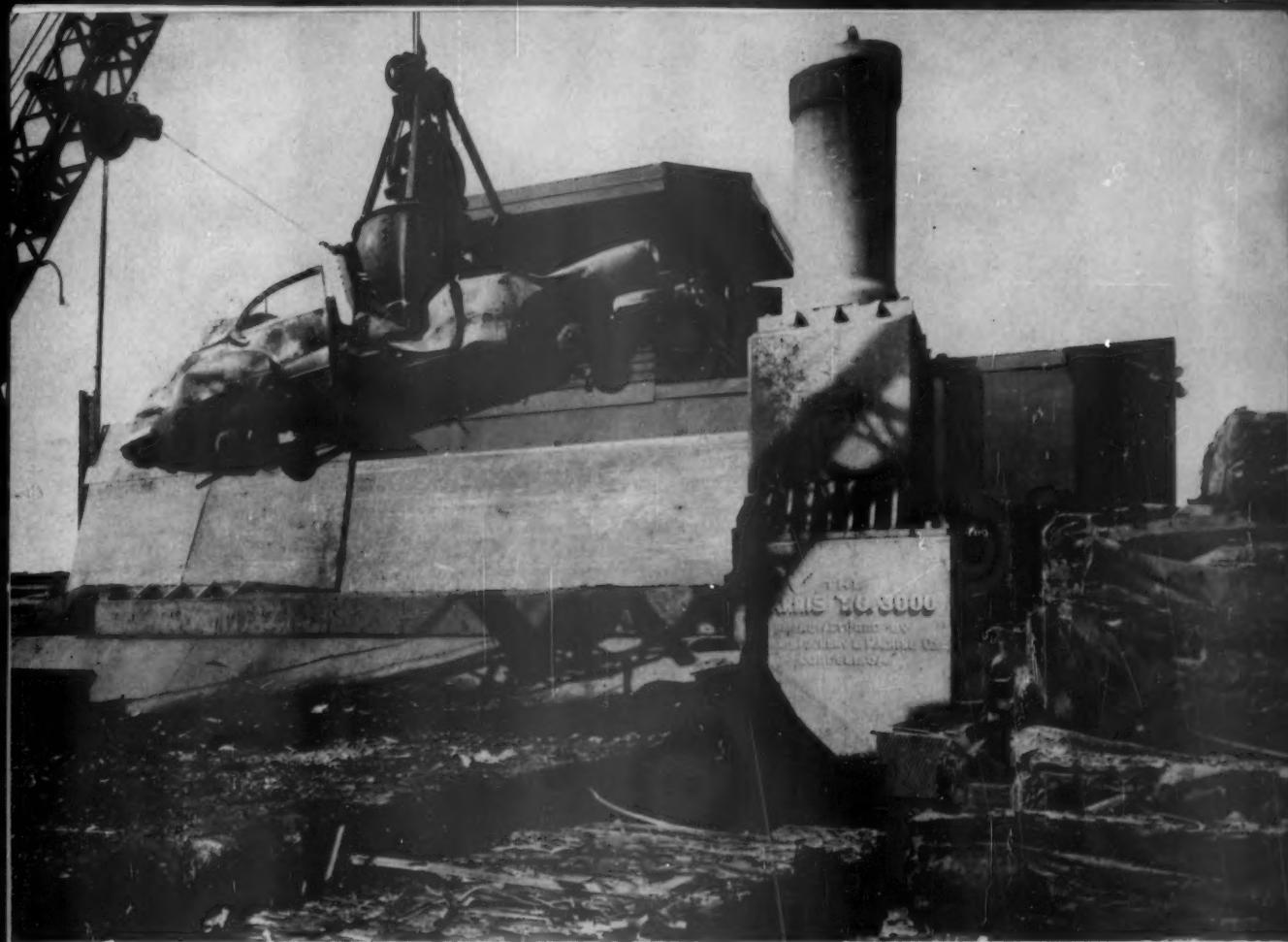
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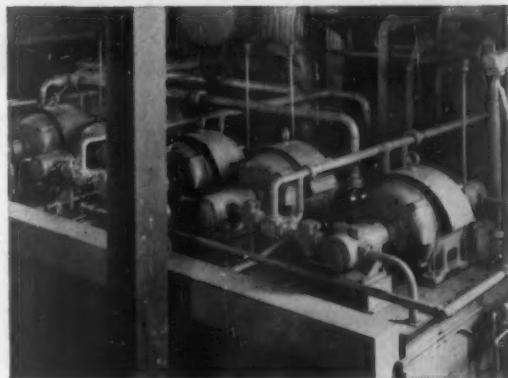


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FEBRUARY 1, 1960



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PURCHASING

The Methods and News Magazine For Industrial Buyers

FEBRUARY 1, 1960

VOLUME 48, No. 3

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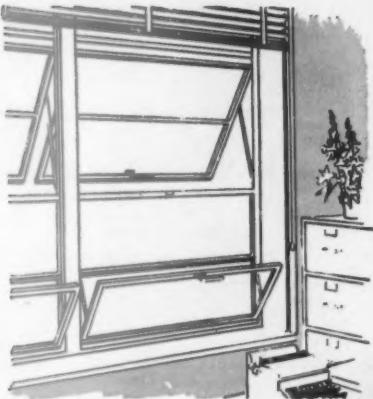
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FEBRUARY 1, 1960

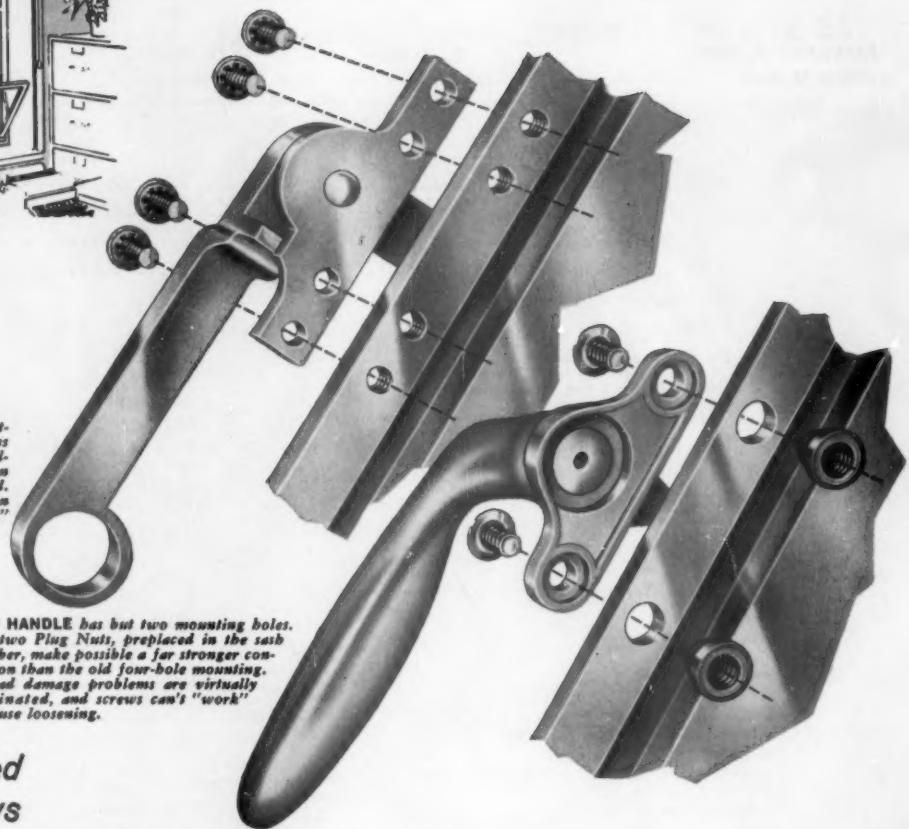
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OLD HANDLE required four mounting holes—and four tapped holes in the sash member. During installation, tapped holes were often damaged and had to be retapped. Handles frequently loosened in service because the screws "worked" in the holes.



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Plug Nuts cut installation costs... permit improved handle design

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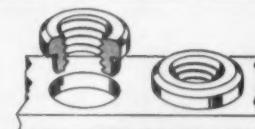
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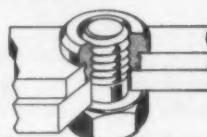
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Plug Nut is easily inserted with hand punch or small press. Displaced hole material flows into knurls and annular groove, to clinch nut securely in place. Note that Plug Nut does not project through material.



Plug Nut's low profile head is a real advantage where clearance is tight.

Pulse of Business

Steel Inventories Building Up

IT won't be long before steel inventories are back to normal levels.

That's the word from the Steel Service Center Institute, which represents the nation's steel warehouses. Most warehouse stocks of finished and semi-finished steel "will be back to desired levels" by April—except for sheets. And by August, even sheet supplies will be adequate.

Stocks held by steel-using companies generally follow the same pattern as the steel warehouses. This means that industrial purchasing agents are buying steel heavily now in anticipation of reaching their normal inventory levels this summer.

Service center stocks were down to a low of 825,000 tons on December 5th. From that point, they rose to 950,000 tons early last month. By the second quarter, inventories will probably be back to 3 million tons—and will eventually hit 3.4 million tons in mid-summer.

Cold Finished Bars Will Ease Soon

Despite this rosy picture, sheet steel products are expected to be in short supply for around six months. Hot-rolled, cold-rolled, and galvanized sheets "will be the last to come into balance in relation to demand."

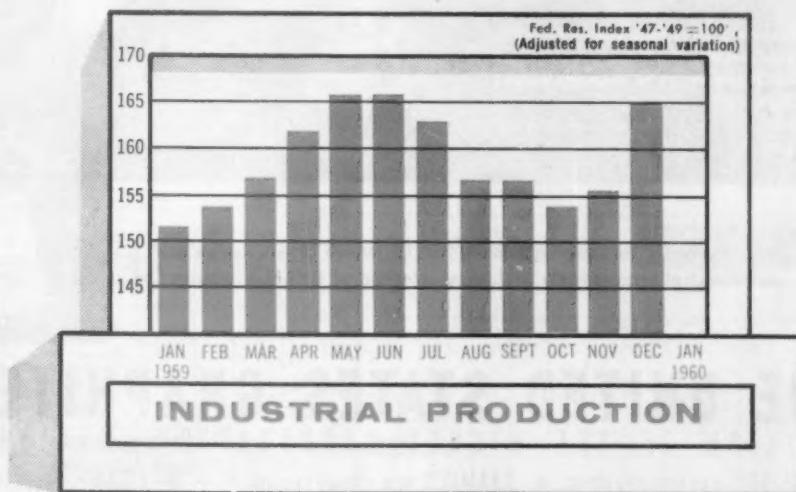
However, good stocks of cold finished bars will be available by the middle of this month. Although there will be some holes in certain items and grades, most P.A.'s will be able to fill their requirements easily enough.

Stainless steel products will be in balance by the end of this month. And more plates, shapes, bars, and alloy bars will be available in around 60-70 days.

What's the outlook for steel warehouse sales in 1960? The first half will show a 10% gain over the similar period of '59. But the last six months will probably see a decline of 20% to 25%. The reasons: completion of inventory buildups, higher interest rates (see Washington Report, p. 21), and a possible business falloff towards the end of the year.

(Turn Page)

The newly-revised Federal Reserve Board Industrial Production Index rose to 165 in December. This marks a nine point advance over the previous month.



35 MILLION BEARINGS...

and every one has given
perfect performance!

that's the record of
GRAMIX® bearings in

the famous **TAYLOR-TOT® SLEEPER WALKER-STROLLER**

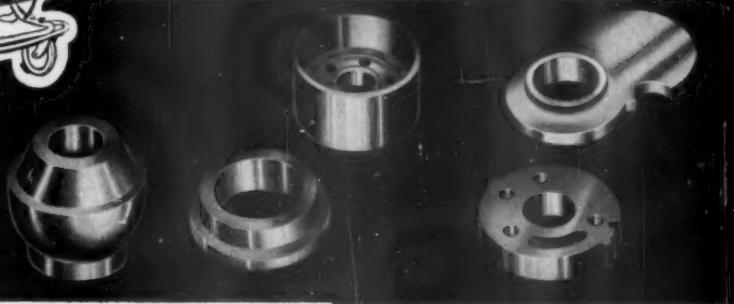


Where there are youngsters, there are Taylor-Tots . . . and where there are these familiar sleeper walker-strollers there are GRAMIX bearings . . . in fact, 35 million to date have been shipped to the Frank F. Taylor Company of Cincinnati and have been accepted by their receiving inspection department without a single rejection. The strength, durability and resistance to wear of these GRAMIX bearings, two of which are used in each wheel, help give Taylor-Tot easier steering and handling. Even though Taylor-Tot strollers are run through snow, dirt and many times are left out in adverse weather, GRAMIX bearings provide the maximum in quietness, free running and long life.

GRAMIX is the ideal bearing material because it can be oil-impregnated for self-lubrication, requires no machining and is completely dependable.

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If you are not already using GRAMIX in your products, it will pay you to consult our engineers . . . to discover how you can benefit from the high quality . . . low cost . . . top performance of GRAMIX products of powder metallurgy.



Write today for Engineering Bulletin No. 18, which covers design and metallurgical requirements and alloy selection of GRAMIX bearings. ▶



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PRODUCTION

Overall, the steel service centers will buy at least 11 million tons of steel from the mills in 1960. Of this, they will ship roughly 8.5 million to purchasing agents—around 800,000 tons less than strike-hit 1959. The remainder will be used for their own inventory replacement, with most of it purchased in the first half.

The heads of a number of important companies in a wide variety of industries have outlined their views on profit prospects in 1960.

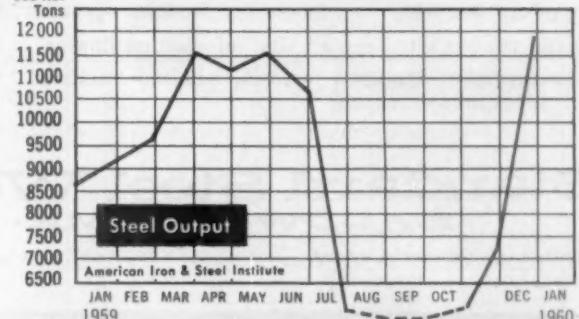
These executives who appeared recently at the National Industrial Conference Board's President's Panel—chairmen and presidents of major corporations—are optimistic about business this year. Many feel that their companies and their industries will reach new peaks in the coming months.

For instance, Willard F. Rockwell, chairman of Rockwell Manufacturing Company, says "certainly the first half of 1960 will reach a new high as a result of accumulation of postponed orders in the second half of 1959."

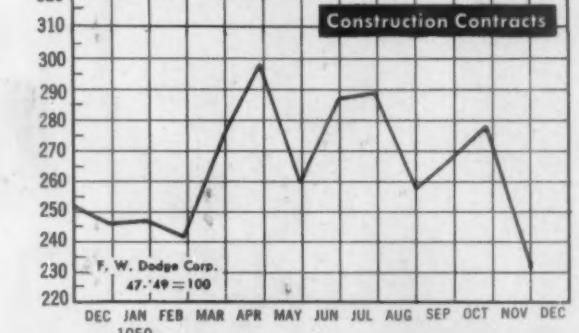
His company, he said, expects "a very satisfactory year in 1960, provided there are no crippling strikes in the United States." He issued a sharp warning, however, about the constant danger of increased competition from foreign products. "Investment in foreign plants is one answer, but we cannot ignore the fact that the profits from such enterprises may be in jeopardy."

The petroleum industry, too, anticipates a

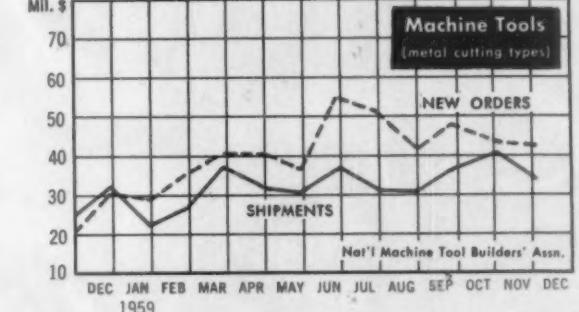
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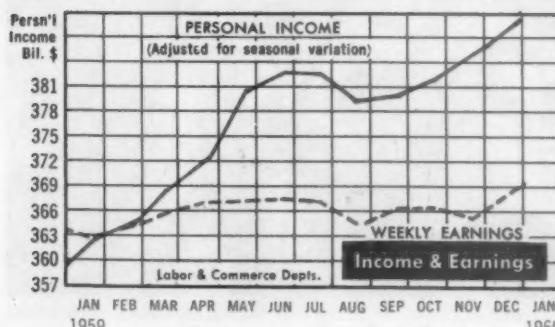
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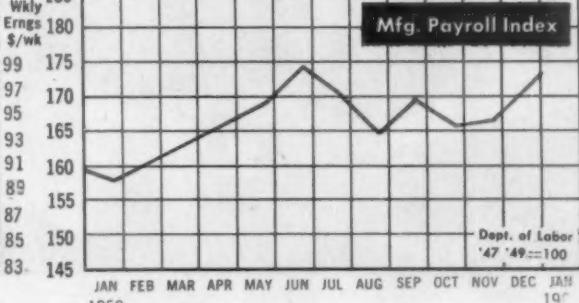
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operators—as well as to plant management, and, of course, our customers.

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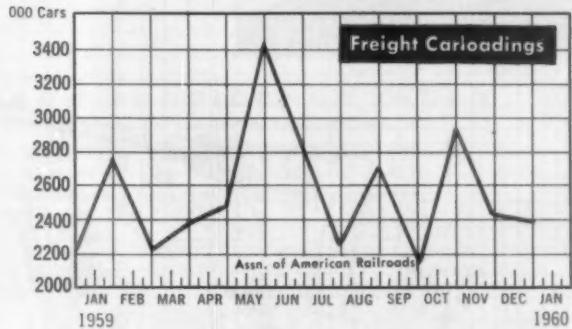
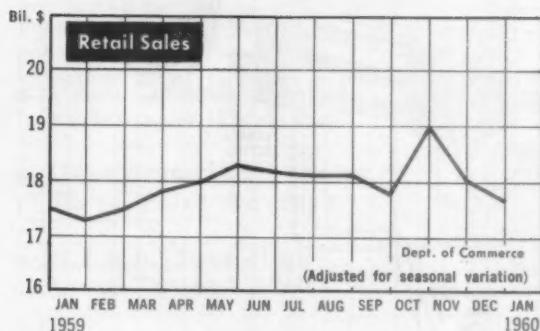
Rings • Shafts • Car wheels • Gear blanks • Flanges • Special shapes



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Pulse of Business

TRADE



better year in 1960. Robert L. Milligan, president of Pure Oil Company, notes that "a recovery of even a fraction of a cent in average gasoline prices would have a considerable effect on the net profit of our company and the industry in general."

Increasing demand for refined oil is the outlook throughout the year. The result could markedly change the recent trend of oversupply which has depressed both prices and earnings for the oil companies.

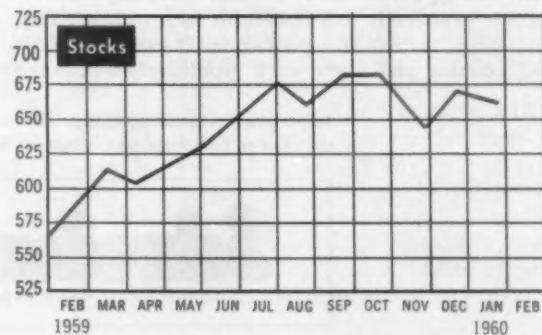
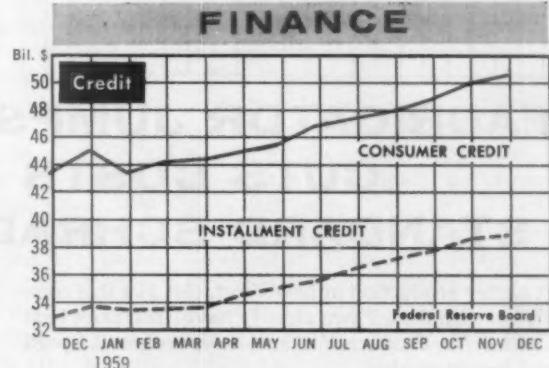
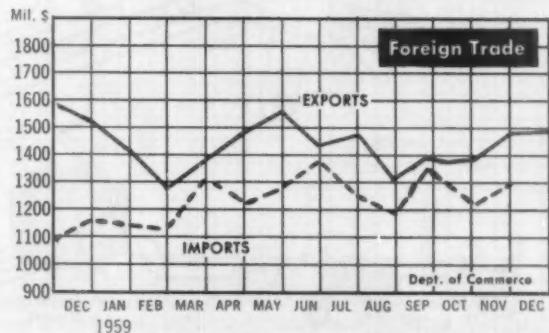
In the construction field, Joseph A. Grazier, president of American Radiator & Standard Sanitary Corporation, anticipates a 2% rise in dollar outlays for new construction. This will bring total construction up to more than \$55 billion.

While residential housing will be down by around 150,000 starts, nonresidential building will more than offset the decline. Government-sponsored construction is likely to maintain its 1959 level.

Similarly optimistic statements were made for banking and equity markets. Experts in these areas cited the prospects for better business in all areas of the economy.

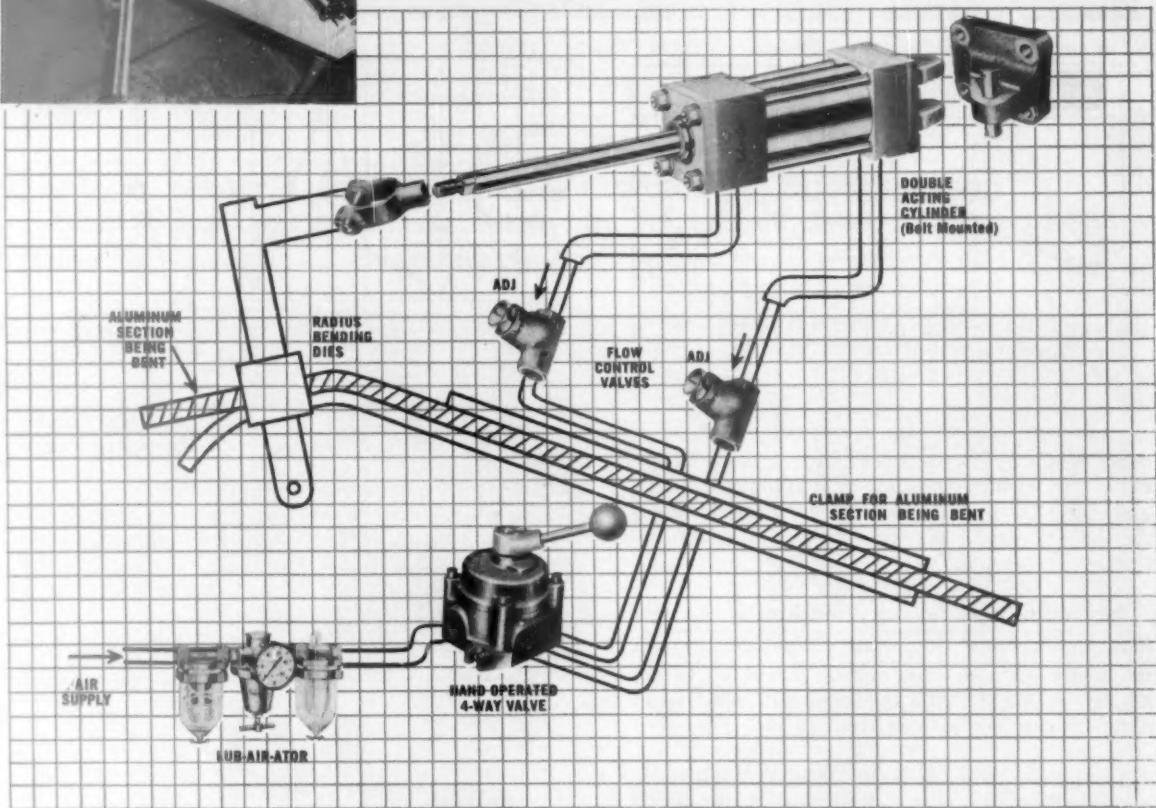
What does this add up to? A record year in most industries. Higher incomes for wage earners. And greater all-round prosperity for businessmen everywhere.

The big question mark now, of course, is 1961. The possibility of another inventory recession next year is a large cloud on the horizon. Thus the maintenance of balanced material stocks in 1960 will be one of the vital factors that can keep the economy on the upward slope in the years ahead.





A typical example of how fabricators use Schrader. Schrader Air Products in the schematic perform a metal-forming operation at Lance Awning Corporation, Lake Worth, Florida. Power is supplied by a Schrader double-acting bolt-mounted air cylinder. By pressing the Schrader flow control valves, bending an aluminum section to the desired angle. Reversal of the 4-way valve returns the cylinder and bending dies to rest, permitting removal of the bend section. "Air control provides a straightforward one-man job," says the Plant Manager. "Two men worked hard to form this radius bend on 25 parts per hour before a Schrader Air Cylinder was installed. Now one man forms 35."



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QUALITY AIR CONTROL PRODUCTS

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Pulse of Business

The P.A.'s Outlook

- P.A.'s Optimistic About Business in First Half
- Confidence Index Shows Three Point Advance
- N.A.P.A. Sees High Level Through 1960

P.A. OPTIMISM over the first half of 1960 is growing.

Responses from purchasing agents throughout the country to PURCHASING Magazine's Business Confidence Poll indicate growing enthusiasm about the economic outlook. So do business surveys conducted by the National Association of Purchasing Agents and the Chicago, Cleveland, Pittsburgh, Georgia, and Canadian associations.

Confidence Index Up

The Business Confidence Index—which measures buyers' opinions of the short-term economic outlook—advanced three points to 109 (1958=100). Over 1000 P.A.'s from coast to coast were surveyed to obtain their views on business conditions in February, March, and April.

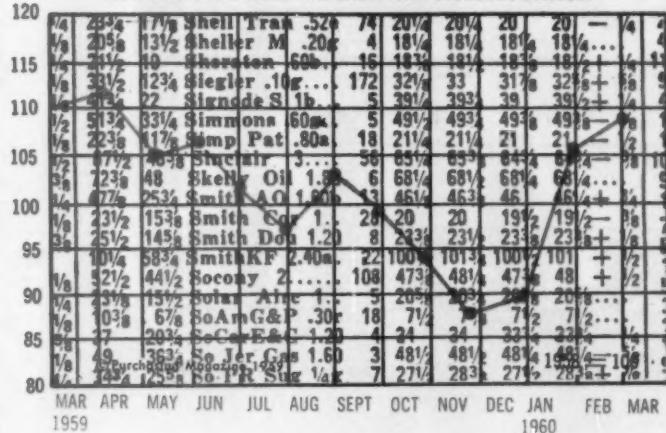
These opinions can be summarized in the comment of an Iowa P.A. who says "the year 1960 should be one of the best in the history of this country. We can meet and beat foreign competition."

And a purchasing agent for a Cleveland manufacturer notes "the resumption of steel operations means that we can move full speed ahead this year."

According to N.A.P.A., "1960 business will be good, not only for the first six months, as forecast by some economists, but for the entire year. A significant 68%

BUSINESS CONFIDENCE INDEX

How P.A.'s feel about the short-term economic outlook.



Purchasing Magazine's Business Confidence Index—based on a cross-section of P.A. opinion throughout the country—rose three points in February to 109 (1958=100). This increase indicates increased optimism among purchasing agents about the business outlook during the next three months.

of our members predict that the first six months of 1960 will be even better than the high level conditions that prevailed in the same period of 1959."

However, it cautions P.A.'s about "the possible upsetting effect of further serious labor difficulties. Among the other items causing some concern are those of tight money, high interest rates, and foreign competition."

Says the Chicago P.A.A.: "Prices remain quite strong, with almost imperceptible change noted over the past four months."

Regarding stocks, it reports that "the movement toward larger inventories continues, with a marked decrease in the number of companies reporting smaller stocks." Employment, it says, is stable.

The Cleveland group says "the tempo has picked up slightly in production and new orders."

It adds that the "long term

view of business for the coming year is generally optimistic."

The Pittsburgh association reports that deliveries by vendors are faster than the previous month. At the same time, it notes, prices paid for principle items remain the same.

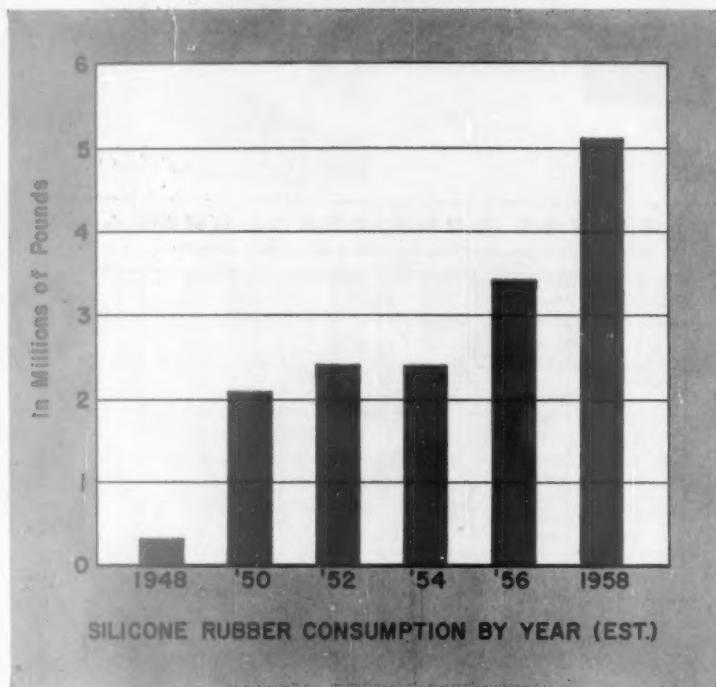
Thirty-nine percent of those surveyed in its report note larger backlog than the previous month. One-quarter state that backlog are the same, while 36% say theirs are smaller.

From the Georgia association comes the news that "65% of the membership reported a better business condition from the standpoint of volume."

It also says that "prices, by and large, remain the same." However, 30% report paying higher prices for principle items purchased.

The Canadian group says "operations are still at a higher level than in the same period last year."

When Rubber Is Cheap At \$3/lb.



The cost of a material is not always what it seems.

To find the *real* price of an item, you have to somehow relate its cost to how well it does the job. For example: razor blades. They're cheap. A dollar's worth will shave you for a month. Yet a *pound* of blades would cost over 30 dollars. But again, no other material will do the job . . . unless you "design around it". Which in this case might mean growing a beard or using an electric. And the electric requires a power source. In other words, you can't equate price-per-pound with performance. You can think of dozens of other examples of this in your own plant: how much do you pay per pound for pencils, typewriter ribbon, cellophane tape, rubber bands?

The mention of rubber brings us to the point. Dow Corning produces a premium synthetic rubber that appears, on a dollars-per-pound basis, expensive. It's Silastic®, the Dow Corning silicone rubber, and it sells for \$3.00 a pound and up. Yet — and this is a big *yet* — this is really cheap when you consider that Silastic is so often the only material that will do the job right.

Parts made from Silastic, because they possess superior properties, have a superior life expectancy in operation. What are these properties? Resistance to virtually all the factors that normally cause rubber parts to fail: heat, cold, ozone, weathering, corona, oxidation, many chemicals, aging and other rough conditions. But in spite of all these virtues, which result in more reliable performance, parts of Silastic, on a *piece* price basis, are really surprisingly inexpensive.

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Here's an example of how little a Silastic part costs per unit. A supplier to the transportation industries is producing a hydraulic fluid seal of Silastic. It must resist hot solvent-type fluids, therefore it's made of one of our highest priced materials: fluorocarbon silicone rubber. Yet this seal, shaped and sized something like a bottle top, sells for about a dime. A dime! Same price you pay for two razor blades, or a few rubber bands . . . and *nothing else would do the job*.

Now consider this. If you were told that Silastic stays rubbery from -130 to over 500 F, you'd probably shrug and say "So what?" . . . your product may only encounter 225 F. Now, let's say your design engineers, trying to keep costs down, go along with a rubber that's good to 230 F. You're buying marginal reliability. If it only has to take that temperature on rare occasion, you're safe. But if those occasions multiply a little, you'd be better off with a better piece of rubber . . . Silastic . . . because it can take this temperature indefinitely. It's cheaper in the end.

So you're way ahead if your engineers design *through* a problem with Silastic, rather than designing *around* it with "cheaper" materials. There are countless areas in present products where the use of any other rubber would be unrealistic. The graph shows how many people have discovered this. Who would use conventional rubber for the moisture seal in a steam iron? . . . Too hot! Or for the oil-seal in the latest automatic transmission . . . Too hot and oily! Or for ducts carrying liquefied gas vapors . . . Too cold! Or for seals between missile sections . . . Too everything! And these are only severe illustrations. It's that borderline application that you must watch, because it's so easy to look the other way and hope, when certainty is really much less costly.

One more reminder: though all Silastic is silicone rubber, not all silicone rubber is Silastic. Dow Corning . . . and Dow Corning customers, we assume . . . fully believe that Silastic is the finest material of its kind to be found anywhere.

We welcome you to contact us direct about Silastic, or inquire of your parts supplier.

Price Trends

- Increase Noted In Nonferrous Demand
- Copper, Lead Stocks Are Sharply Reduced

PURCHASING AGENTS stepped up their buying of nonferrous metals last month. With the production of many metal fabricators increasing, the demand for raw materials has been boosted.

Here's the current situation in some of the major commodities bought by P.A.'s:

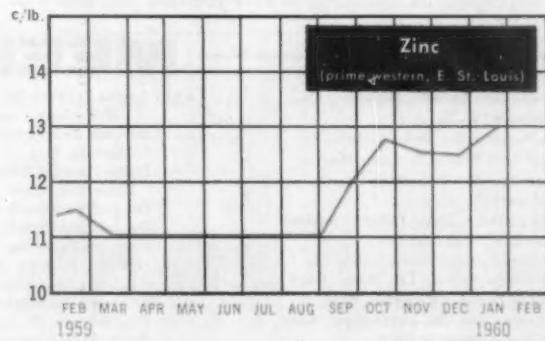
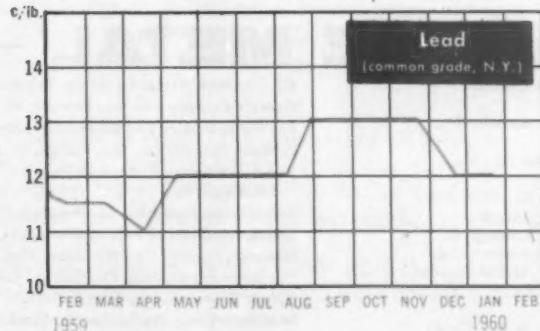
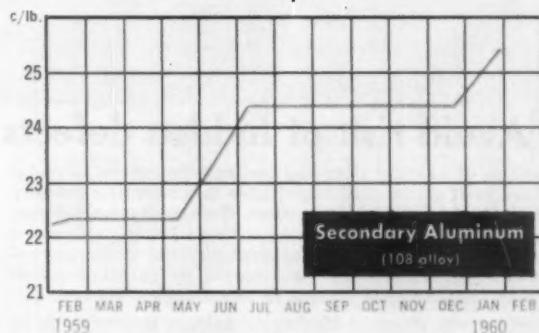
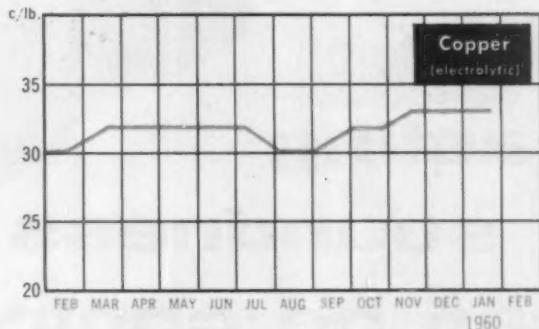
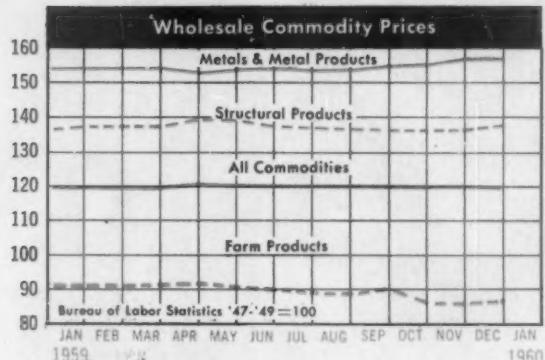
Tin: Tin trading has developed a firmer under-tone in New York, London, and Singapore. Purchasing agents for tin platers bought fair tonnages recently.

Consumption of primary tin in the United States was 2270 tons, according to the latest monthly report of the Bureau of Mines. This marks an increase of 120 tons over the previous month.

Aluminum: Domestic production of primary aluminum advanced in the latest monthly report from the Aluminum Association. Production was 162,996 tons—up 9,330 tons from the month earlier.

Total aluminum output in 1959 amounted to 1,953,039 tons. This marked a 387,483 ton increase over the previous year. The record month for '59 was July—when over 179,000 tons were produced.

Zinc: The zinc price hike last month was spurred by the buying wave that followed the steel settlement. With purchasing agents for the steel companies accounting for almost half of the



casting soundness can be controlled

Avoid risk of hidden defects . . . specify Meehanite castings

In castings of varying sizes and sections the control of metal structure is of paramount importance in preventing porosity and deviations in physical properties. Meehanite metal's dense, fine grain structure which assures casting solidity . . . free and easy machinability . . . and consistent physical properties regardless of mass or section is achieved by patented manufacturing methods quite unique in metallurgical control.

The uniform soundness of Meehanite castings is predictable in advance . . . in every casting . . . in every group of castings. You can depend on Meehanite to save you time and money in

your shop and to enhance your products reputation in the field.

Avoid the risk of hidden defects which result in high machining costs and time loss. Don't take a chance on bargain prices or so-called "equivalents." Specify Meehanite castings and be free from worry. Whatever your casting requirements, there is a nearby Meehanite foundry ready to serve your needs.

For additional facts about Meehanite®, write to the Meehanite Metal Corporation, 714 North Ave., New Rochelle, New York, for your free copy of *Meehanite Means Better Castings*.

MEEHANITE METAL

The American Laundry Machinery Co.,
Rochester, N. Y.

Atlas Foundry Co., Detroit, Mich.

Banner Iron Works, St. Louis, Mo.

Barnett Foundry & Machine Co.,

Irvington, N. J.

Casting Service Corp., LaPorte, Indiana
and Bridgman, Michigan

Centrifugally Cast Products Div., The
Shenango Furnace Co., Dover, Ohio

Compton Foundry, Compton, Calif.

Continental Gin Co., Birmingham, Ala.

The Cooper-Bessemer Corp.,

Mt. Vernon, Ohio and Grove City, Pa.
Crawford & Doherty Foundry Co.,

Portland, Ore.

Dayton Casting Co., Dayton, Ohio

Empire Foundry Co., Tulsa, Okla.
and Bonham, Texas

Florence Pipe Foundry & Machine Co.,

Florence, N. J.

Fulton Foundry & Machines Co., Inc.,

Cleveland, Ohio

General Foundry & Mfg. Co., Flint, Mich.

Georgia Iron Works, Augusta, Ga.

Greenlee Foundries, Inc., Chicago, Ill.

Hamilton Foundry, Inc., Hamilton, Ohio

Johnstone Foundries, Inc., Grove City, Pa.

Kanawha Manufacturing Co.,

Charleston, W. Va.

Kennedy Van Saun Mfg. & Eng. Corp.,

Danville, Pa.

Lincoln Foundry Corp., Los Angeles, Calif.

Nordberg Manufacturing Co.,

Milwaukee, Wis. and St. Louis, Mo.

Oil City Iron Works, Corsicana, Texas

Palmyra Foundry Co., Inc., Palmyra, N. J.

The Henry Perkins Co., Bridgewater, Mass.

Pohlman Foundry Co., Inc., Buffalo, N. Y.

Rosedale Foundry & Machine Co.,
Pittsburgh, Pa.

Ross-Meehan Foundries, Chattanooga, Tenn.

Sonith Foundries of FMC, Indianapolis, Ind.

Standard Foundry Co., Worcester, Mass.

The Stearns-Roger Mfg. Co., Denver, Colo.

Vulcan Foundry Co., Oakland, Calif.

Washington Iron Works, Seattle, Wash.

Dorr-Oliver-Long, Ltd., Orillia, Ontario

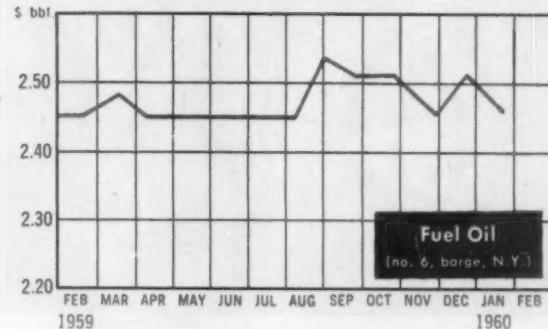
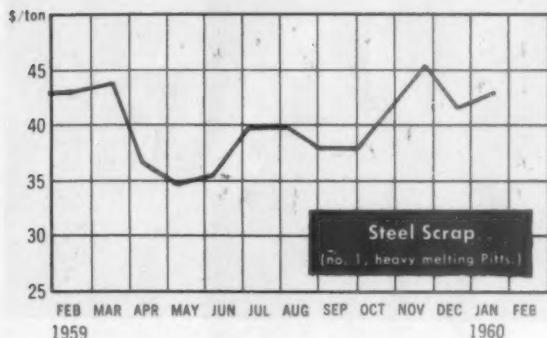
Hartley Foundry Div., London Concrete

Machinery Co., Ltd., Brantford, Ontario

Otis Elevator Co., Ltd., Hamilton, Ontario

MEEHANITE METAL CORPORATION, NEW ROCHELLE, NEW YORK

Price Trends



tonnage consumed, zinc sales have been quite active in recent weeks.

Buyers for galvanizers will purchase somewhere around 476,000 tons of zinc this year, predicts the Business and Defense Services Administration. In 1959, galvanizers bought 340,000 tons.

Copper: The longest strike in the history of the American copper industry continues, involving 10,000 men at Western mines, smelters, and refineries. Nevertheless, the price tone is subdued—despite the limited supply and the increasing lack of available foreign metal.

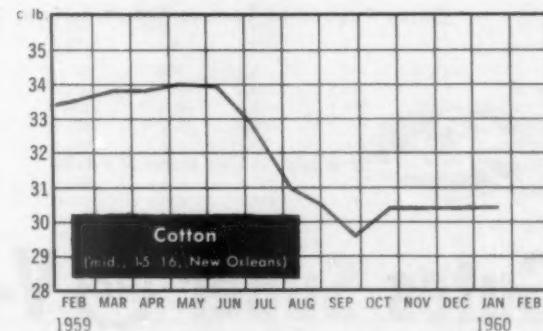
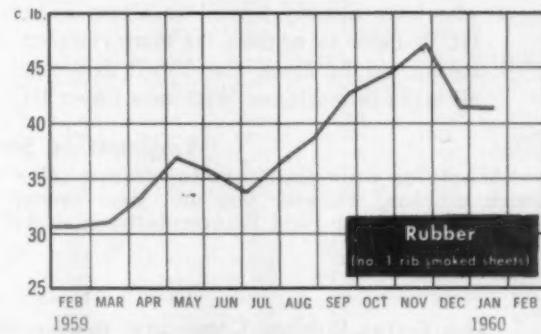
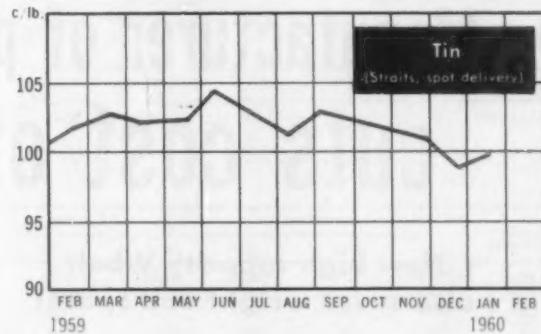
Further declines in domestic stocks and a slight increase in shipments and production were noted in the latest report of the Copper Institute. Stocks fell 9879 tons to 64,763 tons in December, marking a yearly low. Shipments rose 6497 tons to 90,123 tons, while mine production advanced 4899 tons to 23,250 tons.

Lead: Don't be surprised to see a lead price boost in the next few months. The reason: inventories held by producers are dropping. Currently, lead is selling for 12 cents a pound.

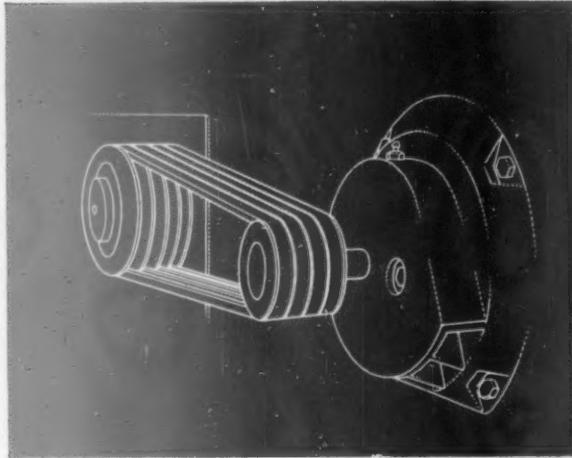
The latest report of the American Bureau of Metal Statistics shows that stocks were down 1171 tons to 106,678 tons. This figure is sharply below the 157,385 tons held by producers twelve months earlier.

Wholesale Prices: The December Wholesale Price Index was unchanged from the previous month at 118.9 (1947-49=100). Excluding farm products and foods, the index advanced 0.1% to 128.6.

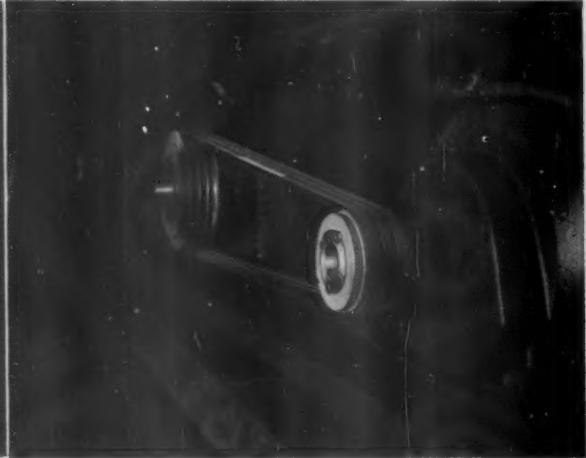
Metals and metal products fell 0.3% following four months of rise. Lower prices were also noted for scrap, babbitt, and solder.



BEFORE: This drawing of the former 4-belt drive on a clothes pressing unit is in the same scale as the photo of new Super HC V-Belt Drive at right. Heavy sheaves needed for 4 belts imposed high bearing loads.



AFTER: By redesigning the drive for Gates Super HC V-Belts only 3 belts are required and this Utah manufacturer saves 16 pounds in weight and 24% on the drive cost of every pressing unit it makes.



Manufacturer of pressing equipment cuts cost of drives 24%

New high capacity V-belt also saves weight and space!

This manufacturer is just one of many who have already turned to Gates Super HC V-Belts to achieve far more compact, lighter weight, lower cost V-belt drives for all types of machines. With new Super HC

V-Belts, sheave dimensions can be reduced 30% to 50%, overall space up to 50%, and drive weight by 20% and more.

A product of Specialized Research in the world's largest V-belt laboratories at Gates, the Super HC V-Belt Drive is already standard equipment on production models in virtually every industry.

Engineering Service Nation-Wide

Whatever your plant's power transmission design problem, wherever you are, your nearby Gates Distributor or Field Representative is ready

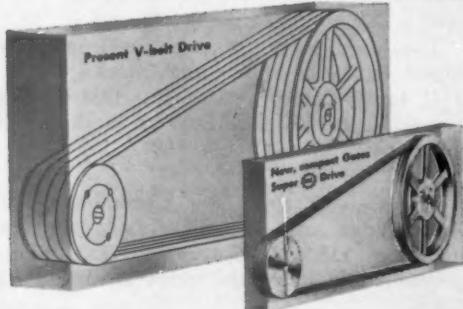
to assist you to cut space, weight, and costs with Super HC. Ask him for a copy of "The Modern Way to Design Multiple V-Belt Drives."

TPA 463

The Gates Rubber Company, Denver, Colorado
Gates Rubber of Canada Ltd., Brantford, Ontario



World's Largest Maker of V-Belts



Gates Super V-Belt Drives

same hp capacity
in smaller "package"

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Pulse of Business

Sales, Inventories, Orders

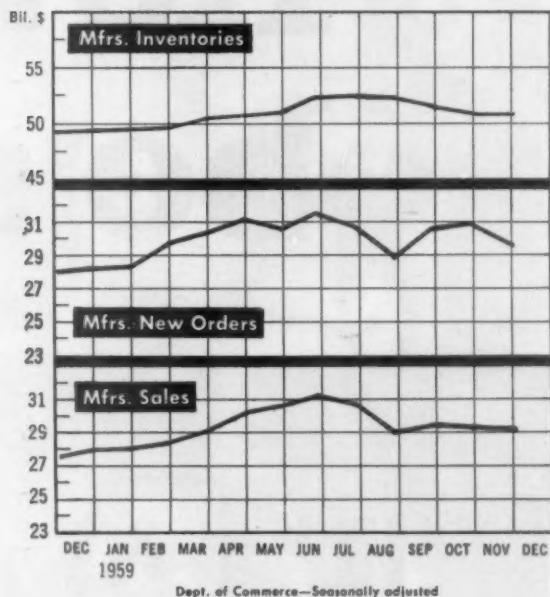
• Sales, Orders Fall; Inventories Constant

MANUFACTURERS' sales and new orders declined in November on a seasonally-adjusted basis—primarily as a result of the steel strike. However, inventories remained constant.

Sales fell \$200 million to \$29.2 billion. The entire drop was in the steel-struck durable goods area—which fell \$500 million to \$13.5 billion. Nondurables rose \$200 million in the same period to \$15.7 billion.

New business dropped \$1 billion to \$29.5 billion. Here too, the effect was totally in the hard goods sector—which was off \$1.2 billion to \$13.9 billion. Soft goods advanced \$200 million to \$15.6 billion.

Inventories of manufacturers were \$51.5 billion, the same as the previous month. Durables stocks advanced \$100 million, while inventories of nondurables producers declined by the same amount.



Dept. of Commerce—Seasonally adjusted

Manufacturers' Sales Seasonally Adjusted (Millions of Dollars)

All Manufacturing Industries	Nov.	July	Aug.	Sept.	Oct.(r)	Nov. (p)
Durable-good industries						
Primary metal	13,295	15,384	14,008	14,113	13,949	13,539
Fabricated metal	2,113	2,104	1,227	1,212	1,189	1,196
Machinery	1,553	1,787	1,703	1,759	1,670	1,637
Transportation equipment	3,951	4,778	4,651	4,663	4,620	4,750
Lumber and furniture	3,040	3,667	3,577	3,641	3,730	3,499
Stone, clay, and glass	891	1,077	991	977	936	930
Nondurable-goods industries	667	805	751	718	695	662
Food and beverage	14,172	15,474	15,960	15,705	15,401	15,667
Tobacco	4,436	4,540	4,511	4,618	4,578	4,718
Textile	378	382	395	408	398	439
Paper	1,102	1,256	1,250	1,222	1,201	1,214
Chemical	936	1,060	1,011	1,029	1,005	1,012
Petroleum and coal	9,023	9,171	9,157	9,273	9,208	9,248
Rubber	2,819	3,093	3,071	3,301	3,138	3,234
	472	519	492	544	582	476

Manufacturers' Inventories Seasonally Adjusted (Millions of Dollars)

All manufacturing industries	Nov.	July	Aug.	Sept.	Oct.(r)	Nov. (p)
Durable-goods industries						
Primary metal	49,297	52,241	52,116	51,892	51,419	51,530
Fabricated metal	27,877	30,349	30,145	29,817	29,921	29,332
Machinery	4,058	4,108	3,980	3,923	3,873	3,953
Transportation equipment	9,896	3,411	3,328	3,117	2,912	2,890
Lumber and furniture	8,954	9,802	9,826	9,741	9,807	9,693
Stone, clay, and glass	6,576	7,397	7,333	7,305	6,830	6,931
Nondurable-goods industries	1,730	1,823	1,841	1,860	1,858	1,864
Food and beverage	1,233	1,270	1,261	1,277	1,323	1,348
Tobacco	21,420	21,892	21,971	22,075	22,198	22,198
Textile	4,676	4,847	4,833	4,832	4,780	4,791
Paper	1,861	1,838	1,866	1,930	1,953	1,972
Chemical	2,456	2,534	2,495	2,516	2,572	2,500
Petroleum and coal	1,419	1,457	1,473	1,471	1,480	1,405
Rubber	3,767	3,847	3,907	3,970	4,008	4,056

Manufacturers' New Orders Seasonally Adjusted (Millions of Dollars)

All manufacturing industries	Nov.	July	Aug.	Sept.	Oct.(r)	Nov. (p)
Durable-goods industries	27,797	30,827	29,016	30,552	30,367	29,549
Nondurable-goods industries	13,574	15,493	13,974	14,747	14,908	13,907

(r) Revised.

(p) Preliminary.

How to be sure



An Island Creek technician uses the optical pyrometer to determine ash fusion point of a coal

What the invoice shows a coal costing is one thing. What the final net costs turn out to be, per 1000 pounds of steam, are something else again. Something obviously even more important, too, than the BTU's per ton. Good reason to investigate Island Creek Precisioneered Coals, inherently superior eastern coals, mined and prepared by the most

... you are buying
coal by the
one indisputable
yardstick: the
lowest cost per 1000
pounds of steam.
Insist on Island Creek
Steam Coals. They're
Precisioneered.

modern methods to precision standards to perform most efficiently in the specific burning equipment in which it will be used. Our engineers would like to lay some case histories before you and your plant people that prove how Island Creek Precisioneered Coals can reduce cost per 1000 pounds of steam. Write or phone. No obligation.



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You can depend on Island Creek...a career company dedicated to coal

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Washington Report

New Budget May Stifle Inflation Fears

- **Less government borrowing**
- **Higher interest rates**
- **Greater inventory accumulation**



Vice President Richard M. Nixon (r.) and Secretary of Labor James Mitchell—who shaped the steel settlement last month—will be in the forefront of the Administration's budget battle during this session of Congress.

WHITE HOUSE BUDGET proposals have set the pattern for the government's policy during the next year and a half—with the forecast of a sizable surplus for fiscal '61 quieting many of the fears of an inflationary cycle.

Whether a surplus of \$4.2 billion can be piled up will remain a question throughout the fiscal year. The projection is based on a high level of national income and no further breakthroughs in government expenditures.

What does appear certain is that the government will cease to be a net borrower. Any surplus that results will tend to make government securities more attractive to investors.

More Loan Money

For the purchasing agent planning to rebuild inventories, the forecast of a budget surplus suggests that the tightness in money will ease up. With less government borrowing, there should be more loan money available for industrial borrowers.

This prospect of cheaper money is somewhat shaded by Administration plans to press Congress

for removal of the 4½% limit on interest the government can pay in issuing securities of five years maturity or longer. The White House effort to raise this limit is aimed at the issuance of long-term securities bearing an interest rate that will attract investors. This type of refinancing operation would make the government's job of borrowing easier, but at the same time would firm up the higher interest rates that loan money now commands.

Federal Reserve Board analysts see money becoming more available by late spring and mid-summer, during the period when inventory accumulation is at a peak. Money supply will also be easier for plant expansion and new equipment purchase.

Nevertheless, government money analysts do not anticipate a reversal of the trend toward higher interest rates.

● 3 Million to Receive Automatic Wage Hikes

The vast majority of workers covered by union contracts received wage increases last year—

with the most common increase between 7 and 9¢ an hour.

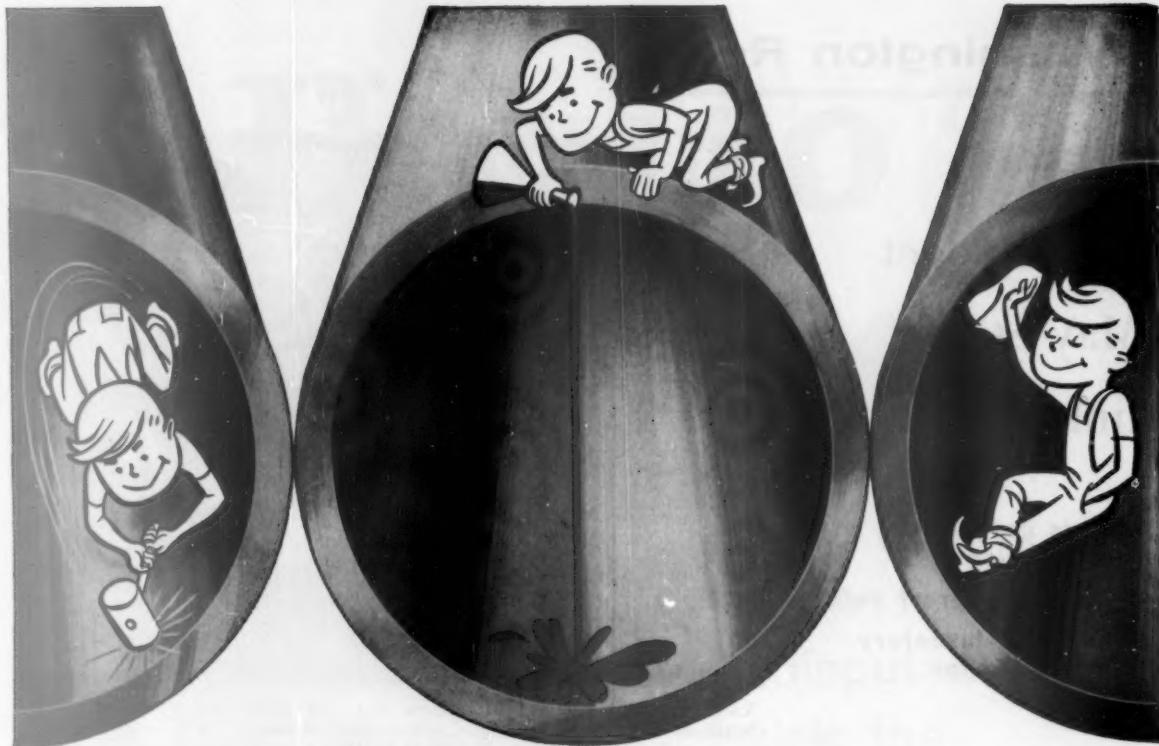
This trend will continue in 1960. At least 3 million workers will receive automatic increases this year as the result of contracts previously negotiated.

For purchasing agents, who are vitally concerned with price trends, labor contracts will continue to be important in the coming months. And were it not for P.A.'s who built up an ample inventory of steel and nonferrous metals prior to the strikes last year, the work stoppages would have had even more dire effects.

Last year, with the exception of metals, most of the wage settlements were in non-durable goods manufacturing and in non-manufacturing. In 1960, the largest single agreement which will expire is the national contract covering 150,000 workers in the men's clothing industry.

Steel Didn't Set a Trend

Other major industry contract negotiations will be in aircraft, shipbuilding, and electrical products. About half of the agreements covering 5,000 or more



The smoother surface of
CONTOUR-WELDED*
STAINLESS TUBING
gives it greater resistance to corrosion

Recent tests prove: (1) Contour-welded tubing is smoother than any other tubing, and (2) this extra smoothness provides greater resistance to corrosion.

Here's how TRENTWELD® tubing, made by the exclusive *Contour-Weld* process, compares with other full-finished tubing:

- It's smoother than seamless because it's formed from uniformly rolled strip steel, whereas seamless is extruded or pierced.
- It's smoother than other welded tubing because the *Contour-Weld* process, patented by Trent, virtually eliminates the weld bead.

Other tests prove this smoother surface provides increased resistance to corrosion — because there are fewer focal points for corrosive attack. Not only that, the smoother surface ensures longer fatigue life and less product incrustation.

But get full details. Our free 48-page "Trentweld Manual" gives complete data on *Contour-Welded* tubing in sizes from $\frac{1}{8}$ " to 40" O.D., in stainless and high alloy steels, titanium, zirconium, zircaloy and Hastelloy. Write: Trent Tube Company, Box 2518, Pittsburgh, Pa.

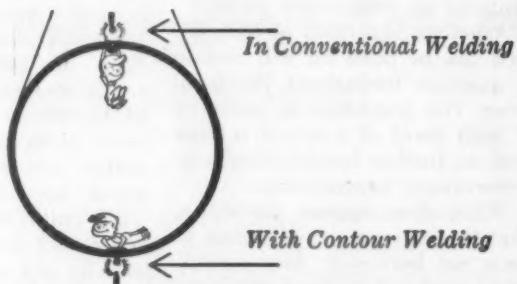
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Subsidiary of Crucible Steel Company of America • GENERAL OFFICES: East Troy, Wisc. • MILLS: East Troy, Wisc.; Fullerton, Calif.

stainless and high alloy pipe and tubing
TRENT TUBE COMPANY

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In CONVENTIONAL WELDING of tubes, gravity pulls the molten metal down to form a bead that is difficult to remove by cold working. And cold working may lead to undercuts, focal points for fatigue cracks and corrosive attacks. Cleaning becomes difficult.

With CONTOUR-WELDING the tube is welded at the bottom. Gravity still pulls the molten metal down inside the tube, but now the weld area corresponds to the contour of the tube. There's virtually no weld bulge on the inside surface. And even on the O.D., the weld seam more closely conforms to the contour of the tubing.



small Gears . . . very small Gears . . . extremely small Gears . . .

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We'll take off our hats to nobody when it comes to filling requirements for Gears to 120 DP.—turned out in economical quantity runs—which meet the toughest specifications! Bevels, Helices, Internals, Clusters—of steel or aluminum—miniaturize as you will, G.S. can design and produce the Gears you need for Instruments—Appliances—Missiles—Control Systems—and the like. Our ability to give spectacularly uniform performance on Gearing of small size or fine pitch has, perhaps, been our best-known specialty during our 43 years of dealing with demanding users (though today we do many other Gear-making jobs with equal facility and skill).

Have you an application where precision in small Gears is a vital factor in smooth and satisfactory production in your plant, or trouble-free performance of your product in use? Then put the specially-trained, broadly experienced G.S. Gear Engineers, and the superbly equipped G.S. plant, on your team. Today would be a good time to start!

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SEND FOR G.S. illustrated folder! See where and how we mass-manufacture Small Gearing to uniformly fine tolerances. Folder contains 23 pictures of Small Gears, plant view, Diametral and Circular Pitch Tables. Ask for your copy on company stationery, please!



44 Years of Specializing in Small Gearing!

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Washington Report

taking, as previously developed in the regular quarterly inventory of "Hi-Value" items; the annual inventory of "Middle-Value" items, and the tri-annual inventory of "Lo-Value" items.

These existing inventory checks will continue to be made. The simultaneous inventory which is being made is designed as extra insurance that full use is being made of all assets. It also will provide a better base for future requirements and budget projections.

• Commerce Dept. Urges 'Hard Sell' for Exports

The government is devising a bold new program to stimulate exports of U.S. goods abroad. This is the Administration answer to our current adverse balance of trade.

Advocates of tariff protection to reduce the volume of imports have found little support in the Administration. Secretary of Commerce Frederick H. Mueller maintains that any effort on our part to reduce imports would be met by similar measures abroad.

Selling the Goods

Instead Secretary Mueller suggests a "hard sell" program, under which we would go out and sell more U.S. goods abroad. The Commerce official says that our objective should be to sell our wares rather than our economic system.

In essence, he suggests a broad program which includes beefing up the commercial staffs of our embassies abroad with more commercial attaches. He also advocates that we establish trade centers and permanent exhibits abroad. And at the same time, he recommends that the U.S. business community be stimulated to increase exports.

As a final and clinching segment of his plan, Secretary Mueller favors expansion of export credit facilities. This would include an expanded government program of insuring credit extended to foreign buyers. A. N. Wecksler

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"Have you seen
the pipe inspector?"



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We admire men who jump right into the tough problems, but our business is eliminating problems completely. That is, problems of corrosion and contamination in piping, valves, pumps, tanks, and the like. Good equipment keeps you always in the clear. Our 108 years of experience is at your service.

Ace chemical-resistant rubber-lined steel pipe best for high-pressure, big sizes, or abrasives. Pipe, fittings and valves 1½ to 24".



BIG GIANT OF
ACID PUMPS

Highly efficient WE pump. Capacity to 360 gpm. Cast iron, fully protected by top quality, chemical resistant hard rubber lining.



Variety and quality to match any plastic piping. Riviclor PVC, Ace-Ite rubber-plastic, Parian poly, Ace Saran, Tempron high temperature nitrile, hard rubber-lined steel.



ACE processing equipment of rubber and plastics

AMERICAN HARD RUBBER COMPANY
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MINNI-E CONNECTORS

Complete new family of miniature "E's"—altitude-moisture resistant. Sizes 12 to 22—3 to 48 contacts.



PRIN-CIR CONNECTORS

Receptacles, plugs and adapters with super-reliable gold-plated contacts. From 6 to 22 contacts.



COAXIAL CABLE

Most complete line anywhere of RG-/U polyethylene and Teflon coaxial cables. Miniatures also.



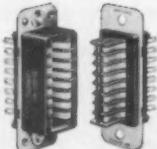
MS/AN CONNECTORS

Relied upon since 1939. Latest design advancement is new "Stub E" construction—shortest lightest "E."



RF CONNECTORS

All RF series available, including remarkable Subminax. New Quick-Crimp BNC's cut assembly time in half.



RACK & PANEL CONNECTORS

Seven families available for every R & P application. Patented crimp Poke-Home contacts in 93 & 94 series.



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Purchasing Follow-up

Steel Expert Gives P.A.'s Grim Warning

"Don't be a patsy. Don't believe those who tell you steel will be easy to get. It won't be." That's the sobering advice *Iron Age* Editor-in-Chief Tom Campbell gave P.A.'s at the January meeting of the North Jersey Purchasing Agents Assn., held in Newark, N.J.

As Campbell sees it, steel supplies will be "very tight" through mid-1960 and "relatively tight" during the last half of the year.

Specific steel items which he believes will be under the greatest supply pressure: cold-rolled sheets, galvanized sheets, silicon sheets, special structural shapes, tinplate, hot-rolled bars, cold-rolled strip, hot-rolled sheets, and hot-rolled strip.

Price Hike in Two Months

Campbell was also pessimistic about the steel price outlook. "Those who tell you that costs for the steel companies won't increase until the 7¢-per-hour wage increase goes through Dec. 1 are off base," he declared. "Since January 1, the steelworkers have been getting 6-9¢ an hour in increased insurance benefits. The money has to come from somewhere."

It's Campbell's belief that the small steel companies will be the first to raise prices—probably within a month or two. There's a possibility that a dual pricing situation might exist for a while, with the small companies charging more than the large companies. But the likelihood is that it won't take the large steel producers long to put through their own price hikes. The price increases may be selective, said Campbell, "but you're likely to find that the selected items are the ones you need most."

Even without an official price increase, Campbell warned P.A.'s that steel products will cost more. "You'll be paying for freight that



Iron Age's Tom Campbell

Continuing steel shortages and a price hike soon.

your suppliers used to absorb, you may not be able to get the item you want and have to switch to a higher priced substitute, and there will be extra charges that most P.A.'s haven't even heard of." He estimated the cost of these more-or-less hidden price increases at \$1.50 per ton for the average metalworking company.

"Blood Dates"

Campbell also gave P.A.'s a few critical "blood dates" affecting the steel outlook:

December 1, 1960 when the steelworkers get their 7¢-per-hour wage increase.

October 1, 1961 when steel wages go up again. Cost to the companies will be 10.16¢ per hour. It's likely the steel companies will again raise prices to cover their increased costs.

June 30, 1962 when the current contract runs out. Another strike is probable, said Campbell, because the current agreement was a "shot-gun wedding."

Touching on the negotiations in Washington leading up to the steel settlement, Campbell emphatically denied that there was a deal between the steel companies and

Vice President Nixon. He said that "many of the Democrats claim it was a case of the steel companies saying 'okay, we'll take this horrible package and won't raise prices until Dec. 1—after the election—just to make you look good.'" But Campbell added "I just can't believe that the presidents of the 11 largest steel companies would enter into a quasi-price-fixing agreement. In fact, if they did, they would be violating the law of the country."

Asked about the outcome of the 2B local practice controversy, Campbell said he didn't think anything would happen. "It's been referred to committee, and if you've ever referred anything to a committee you know what I mean."

Stress Engineering-Purchasing Cooperation

Two important responsibilities of engineering to purchasing have been outlined by H. A. Williams, director of purchases for Eaton Manufacturing Company.

Speaking at the annual meeting of the Society of Automotive Engineering, Mr. Williams noted that the engineering department should provide assistance in:

(1) Obtaining cost reductions by designing parts that lend themselves to such things as alternate materials, suppliers capabilities, and new processes.

(2) Getting fair competition into procurement of all items.

He stated that "any purchasing department's main responsibility is to obtain competition in its procurement activities, which is, of course, the most effective way purchasing can contribute to the control of costs. Obviously, it is difficult for purchasing to obtain competition where engineering's designs restrict us to a single vendor or even a single industry."

Mr. Williams observed that "engineers almost universally, if left to their own devices, will design a part so that it will (A) never wear out, (B) never break, and (C) never need any maintenance. There is nothing intrinsically wrong with this viewpoint—except that all too frequently nobody can afford it."

Information For Your Catalog Files

ARC WELDING

A 64-page booklet on arc welding products and engineering data. Form ADC 650 includes applications, procedures, and pertinent A.W.S.A.S.T.M. information. Electrodes are listed chronologically by AWS classification number.

Air Reduction Company, Inc.

Write No. 1 on Inquiry Card—Page 32

COMPRESSORS

Form E-269 describes industrial rotary stationary compressors. Includes specifications for compressors of 20 to 125 h.p. Covers units with air-cooled or water-cooled oil coolers.

Davey Compressor Co.

Write No. 2 on Inquiry Card—Page 32

CONTROL SYSTEMS

A four-page two-color bulletin describing and illustrating hydraulic control systems for one, two, and three dimensional applications on machine tools. A portion of bulletin SB-2 is devoted to the tracer components, including cylinders and power units.

True-Trac Corporation

Write No. 3 on Inquiry Card—Page 32

COUPLERS

A 20-page catalog on automatic, semi-automatic, and regular quick detachable couplers. Also shows practical applications of couplers, fittings, hoses, and three-way sleeve valves for use with various air-operated tools and fixtures.

Foster Manufacturing Company, Inc.

Write No. 4 on Inquiry Card—Page 32

DRILL BUSHINGS

A catalog on various sizes and types of drill jig bushings. Includes color-coded tables, prices, and quantity discounts.

American Drill Bushing Co.

Write No. 5 on Inquiry Card—Page 32

FIRE ALARM SYSTEMS

A 36-page two-color catalog on fire alarm systems. Covers components and accessory equipment, along with typical job specifications.

Standard Electric Time Company

Write No. 6 on Inquiry Card—Page 32

FORK TRUCKS

Bulletin No. SS-363 describes a 4000-lb. capacity battery powered fork truck. The four-page folder gives complete engineering and dimensional specifications. Explains operating features, hydraulic mechanism, and construction.

Clark Equipment Company

Write No. 7 on Inquiry Card—Page 32

INSTRUMENT CASES

A two-color catalog on instrument cases. Describes the use of various kinds of protective packaging for instruments needing protection against heat, humidity, salt spray, water, fungus, pressure, shock, and fire.

Zero Mfg. Co.

Write No. 8 on Inquiry Card—Page 32

INSULATION

Catalog IN-244A covers thermal insulations in applications ranging from —400 degrees F to 3000 degrees F. The 54-page bulletin contains six complete sections, each devoted to a specialized group. Includes application photos, descriptions, available forms, advantages, and specification data for each product.

Johns-Manville Sales Corporation

Write No. 9 on Inquiry Card—Page 32

MOLYBDENUM

A 12-page brochure describing the applications, physical properties, and production processes of molybdenum. Lists the forms of molybdenum available commercially and explores new uses in the refractory metals field.

General Telephone & Electronics Corporation

Write No. 10 on Inquiry Card—Page 32

MOTOR CONTROLS

Catalog 5900 covers general motor control products. The 72-page color bulletin has selection charts for magnetic and manual starters, containing horsepower, motor speed, heater size, and enclosure choices. Also has data on drum controllers, pressure switches, and pilot devices.

Furnas Electric Company

Write No. 11 on Inquiry Card—Page 32

MOTOR REDUCERS

Catalog MR-58 covers vertical motor reducers and in-line reducers. The 28-page bulletin describes construction and mechanical features of reducers in eight housing sizes for applications up to 125 h.p. Load characteristics are outlined and mounting dimensions are listed.

Philadelphia Gear Corporation

Write No. 12 on Inquiry Card—Page 32



U. S. ROYAL V-BELTS from the Power Unlimited complete belt line



Exclusive new process gives **balanced driving power**

Now you can give your equipment the kind of driving power that comes only from V-belts that are as close-to-perfect as the world's most advanced manufacturing methods can make them. Specially developed equipment automatically controls thickness, weight, density, length, and tension members so precisely that each U. S. Royal gives you *balanced driving power* that pays off in every aspect of a belt's performance.

Smooother running. Variations inherent in other belts lead to vibration, intermittent slippage, increased bearing wear, excessive heat build-up, and early belt failure. Because of the "balanced driving power" resulting from exclusive manufacturing processes, U. S. Royals are the sweetest running

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Unequalled length stability. Test after test has demonstrated that each U. S. Royal V-Belt with balanced driving power is a perfect working match for the others in its set. And every U. S. Royal V-Belt on a multiple drive will *continue* to pull its share of the load long after other "matched" belts have begun to assert their individuality.

No weak spots. Because there are no "weak links," you get longer lasting driving power and greater freedom from maintenance than ever before. Take advantage of the balanced driving power only U. S. Royal V-Belts offer. Your "U. S." Power Transmission Distributor has full stocks to service you promptly.

Mechanical Goods Division



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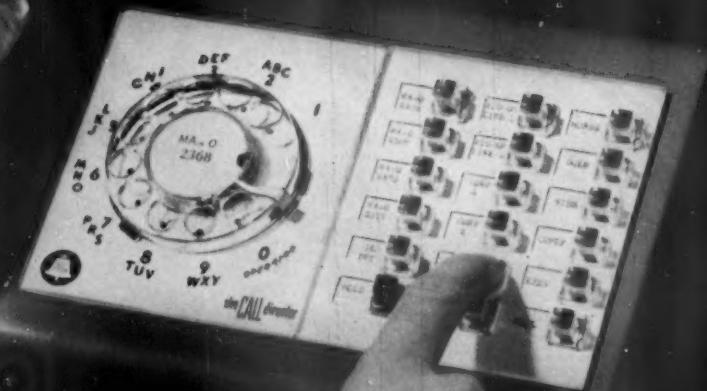
For More Information Write No. 171 on Inquiry Card—Page 32

FEBRUARY 1, 1960

29

Thousands of firms are profiting from this versatile telephone!

Is yours?



Available in an 18-button executive model (shown) and a 30-button secretarial model...both in green, gray or beige.

It's THE CALL DIRECTOR telephone

We're getting high praise for it from business firms all over the country. It's boosting operating efficiency—at low cost—wherever it is being used.

Efficiency is the Call Director's strong suit. Its versatile pushbuttons put as many as 29 outside, extension or intercom lines right at your fingertips. With Bell System intercom, it gives you interoffice connections in an instant. It permits six-way telephone conferences. It lets you add others to calls on your line and hold calls on several lines at

once if you wish. You just push a button—or dial.

The effect it has on productivity and profits will delight you!

ONLY ONE EXAMPLE

The Call Director is only one example of new Bell System equipment now available to serve you profitably. Why not learn about all these new developments? Just call your Bell Telephone business office and a representative will visit you at your convenience. No obligation, of course.



BELL TELEPHONE SYSTEM

For More Information Write No. 172 on Inquiry Card—Page 32

Catalog Files

MOTORS

Bulletin No. 196 describes drip-proof motors. The four-page catalog illustrates five outstanding design features. Explains advantages where conditions of moisture, humidity, dust, oil, and chemicals exist.

Sterling Electric Motors, Inc.

Write No. 13 on Inquiry Card—Page 32

RECTIFIERS

Bulletin No. 6101-1A describes flexible silicon power rectifiers. The eight-page two-color catalog covers cost, reliability, efficiency, and maintenance.

I-T-E Circuit Breaker Company

Write No. 14 on Inquiry Card—Page 32

SPEED REDUCERS

Bulletin No. M-140 covers flanged and motorized worm gear speed reducers. The 28-page catalog has illustrations, charts, and tables for reducers in nine complete series.

Perfection Gear Company

Write No. 15 on Inquiry Card—Page 32

SPRINGS

A 20-page catalog listing over 750 different springs available from stock. Contains engineering data and prices for compression and extension springs in stainless steel and music wire.

Leetronics, Inc.

Write No. 16 on Inquiry Card—Page 32

STAINLESS STEEL

A 34-page catalog on stainless steel sheet and strip. The illustrated bulletin includes tolerance tables, laboratory corrosion data, and applications.

Jones & Laughlin Steel Corporation

Write No. 17 on Inquiry Card—Page 32



**Nails down freight
information concisely
and constantly for
shipper satisfaction**

B&O's latest feat in modern railroading gives carload shippers faster freight tracing electronically. B&O . . . DOT . . . flashes terminal to terminal movements to system headquarters. From this one nerve center, the complete picture on car movement is relayed to all B&O traffic offices in the U. S. and Canada—24 hours a day.

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BALTIMORE & OHIO RAILROAD

The line of SENTINEL Service—TIME SAVER Service—TOPCEE Service

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FRASSE ALUMINUM

helps tell
how she's doing!



Ballistic missile success hinges on intelligence obtained in test firings. Tracking data — reporting velocity, direction, altitude, temperature, etc. is vital — when processed, it guides critical design changes.

Heart of the intricate data processing system at Cape Canaveral is a Potter Magnityper — a high speed electronic printer that decodes raw material . . . then stores, collates, interprets and prints at 72 thousand characters per minute. Lightweight, non-magnetic aluminum is essential to its efficient operation — that's why the Magnityper is made almost completely of Frasse aluminum.

Frasse ships the required sizes quickly from stock — in the grades that

contribute to its ease of fabrication and performance. For example, Frasse supplies 2024-T4 bars for strength and machinability, 5052-H34 sheet for formability and weldability and "775" tooling plate for dimensional accuracy with no distortion when worked.

Perhaps these same qualities can increase the efficiency of your product — or reduce fabricating costs. It's worth investigating — and a Frasse aluminum specialist will be glad to help. There's no obligation — simply write or call your nearest Frasse office. You'll be glad you did.

Call FRASSE for ALUMINUM

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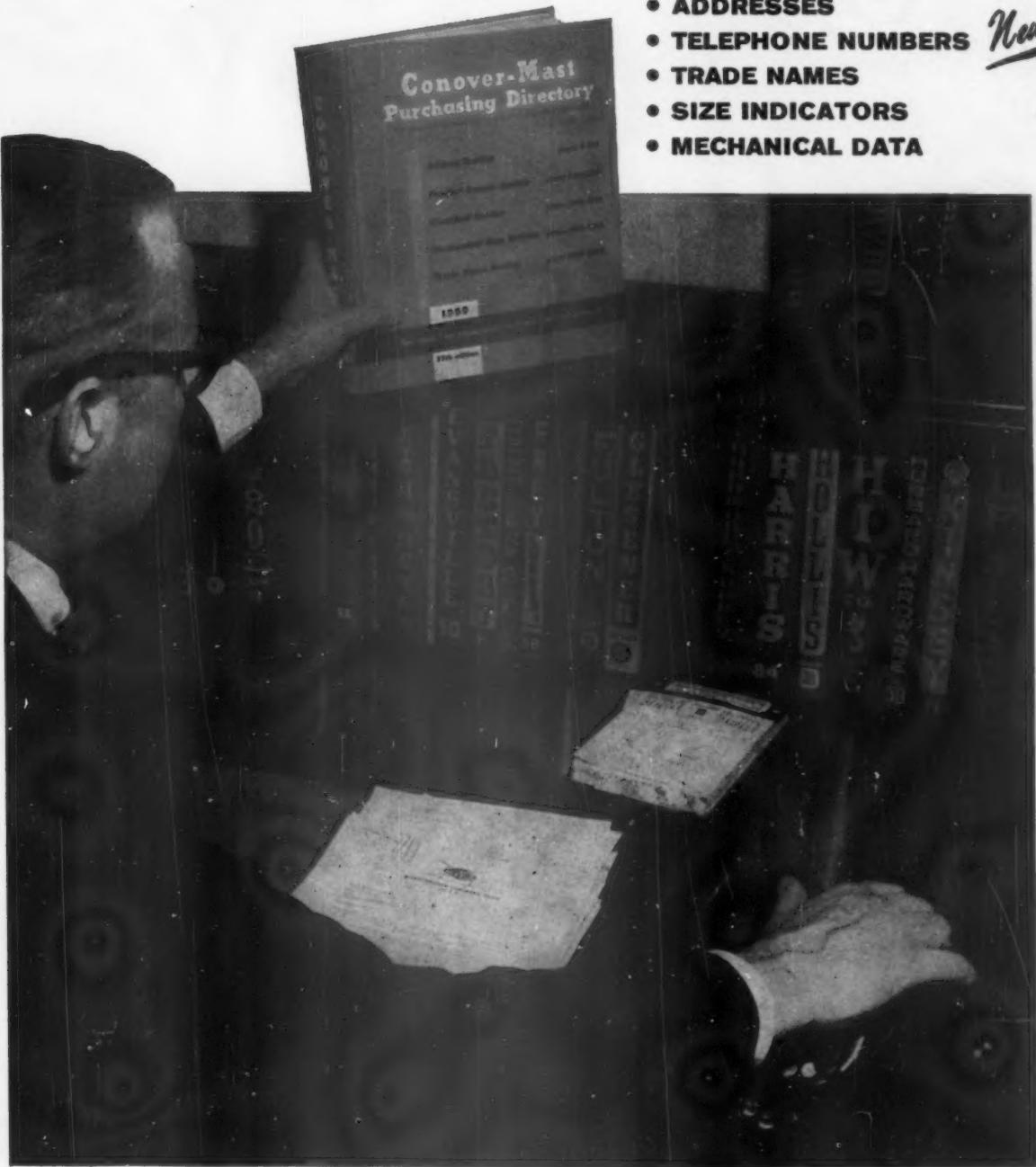
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P. O. Box K, Sta. B
BEDford 4700

SYRACUSE 1, N. Y.
P. O. Box 1267
HOward 3-8655

HARTFORD 1, CONN.
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JACKson 9-6861

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Because C-MPD is designed for industrial buying it is compact... yet complete. And now you can use it for checking telephone numbers of companies that sell to industry. Never before has so much information been put into *one volume* for industrial Purchasing Agents.

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For More Information about ad on following page
Write No. 175 on Inquiry Card—Page 32→



**Jim Weaver,
who supervised construction of
new type chlorine and caustic soda
tank cars, says
you'll like doing business
with Columbia-Southern**

Jim Weaver and other members of Columbia-Southern's Traffic Department have pioneered a long list of improvements in the safe and economical shipping of chemicals. The company's new fleet of tank barges incorporates many special features designed for more efficient handling of bulk quantities. Columbia-Southern's liquid caustic tank cars were the first to use a special lining that permits delivery of high concentration caustic—free from metallic pickup. Also, Columbia-Southern developed the use of the dome safety platform on tank cars, as an effective safeguard against accidents during loading and unloading.

This *customer-oriented* attitude is common to all Columbia-Southern activities. For example, Columbia-Southern caustic soda is available in a variety of forms and grades, providing each customer with the particular caustic best suited for his facilities and needs. Customers can choose from solid, flake (in fine or medium particle size), or liquid (in 50% or 73% concentration). In addition, there's a highly purified grade of liquid caustic, for special uses such as rayon manufacture. And your Columbia-Southern Technical Service Representative is always available for professional consultation on the proper application of these various forms of caustic soda.

Buyers of chemicals in every industry like this thoroughness, because it adds up to extra profits for them. You'll find that it will for you, too.

Anhydrous Ammonia, Barium Chemicals, Benzene Hexachloride, Calcium Chloride, Calcium Hypochlorite (Pittchlor®, Pittabs®), Carbon Tetrachloride, Caustic Potash, Caustic Soda, Chlorine, Chlorinated Benzenes, Chloro IPC, Chrome Chemicals, Hydrogen Peroxide, Muriatic Acid, Pacific Crystals, Perchlorethylene, Rubber Pigments (Calcene®, Hi-Sil®, Silene®), Soda Ash, Sodium Bicarbonate, Sodium Sulfate, Titanium Tetrachloride, Trichlorethylene

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CHEMICAL CORPORATION

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Purchasing People In The News

Standard Oil Company (Indiana), Chicago, Ill., has announced the appointment of **Edward M. Bruzelius** as coordinator of trade relations in the purchasing department. He will succeed **Clifford J. Gurney** who has retired after 39 years of service with the company. Mr. Bruzelius joined Standard in 1937 at its Sugar Creek, Mo., refinery where he advanced to head engineer. He was made purchasing development manager in 1953 at the Chicago general office. Two years later he became a buyer. He received his B.S. degree in mechanical engineering at University of Kansas.

The promotion of **Robert K. Swander** to staff level status for Heath Company, Benton Harbor, Mich., has been announced. Mr.



Robert K. Swander

Swander has been director of purchasing for the past year, and purchasing agent for the company since 1950. He was formerly with Remington Rand Co. in Benton Harbor.

Value Analysis Inc., Schenectady, N. Y. has named **Wayne Ruggles** to its staff. Value Analysis Inc. is a consulting firm offering services designed to increase profits by eliminating unnecessary costs in the entire business cycle from product design to customer

purchases. Mr. Ruggles comes to the group from the Value Analysis Section of GE's Home Laundry Department in Indianapolis, Ind. He will be located at V.A. Inc., 721 N. Main St., Wheaton, Ill.

Benjamin Katz has been named director of purchasing for **Polarad Electronics Corporation, Long Island City, N. Y.** Mr. Katz has been engaged in various management phases of the electronics industry. For the past 17 years he has been active in the fields of purchasing, industrial relations, and sales and marketing. More recently, he held the position of director of purchasing at the Transmitter Equipment Manufacturing Company and of the Electronics Division of Otis Elevator Company. Mr. Katz is president of the Purchasing Agents of the Radio and Television Industry and a member of the New York Purchasing Agents Association. He has a B.S. degree from the City College of New York.

A. D. Tracy has been appointed purchasing agent for **Pittsburgh Forgings Company, Coraopolis, Pa.** He succeeds **C. F. Yoders** who has retired.

Realignment of **Chance Vought Aircraft's** purchasing organization at **Dallas, Texas** has been announced.

Procurement activity for the Vought Aeronautics Division is under direction of **W. R. Keifer**, materials manager, with **W. H. Haugh** as general purchasing agent. **J. R. Bruno** is purchasing agent for general purchases and **W. H. Andrews** for subcontracting and sub-systems.

B. A. Carlson, materials branch manager, will be in charge of purchasing for the Vought Electronics and Astronautics Divisions. **A. J. Patton** will be purchasing agent for the astronauts group and **Gordon Furnas** for electronics.

Procurement for the Range Systems and Research Divisions also will be under Mr. Carlson's direction. Pending appointment of purchasing agents for these divisions, Mr. Patton will handle their affairs.

Peter Gianaris has been appointed manager-materials for the **Everett Foundries of General Electric Company's Foundry Department, Everett, Mass.** Mr. Gianaris began work with the New England Telephone Co. in the advertising component, and later did free lance advertising in the Greater Boston area. In March 1951 he joined GE on the wage rate & planning program with assignments in apprentice training, press, tool and die, forge shop and the foundry before accepting an assignment as specialist-time standards data. Later he was given the position of specialist-advanced planning & methods. He is a graduate of Boston University.

Herbert Fleck has been named vice president, production, for both the **Chicago, Ill.** and **Trenton, N. J.** plants of **Cromwell Paper**



Herbert Fleck

Company. Mr. Fleck had been purchasing agent and controller for several years. He will headquartered at the Chicago Cromwell plant, 4801 South Whipple.



"We found a way to get complete inventory turnover in 60 days,"

*says Mr. Robert W. Boldt, Purchasing Agent, Borg-Warner Industrial Cranes,
Ingersoll Products Division, Borg-Warner Corporation, Chicago, Illinois
Manufacturers of overhead, gantry and jib cranes.*

"Our cranes are designed and engineered to fit the duty cycle of a particular job," says Mr. Boldt. "We buy material on a tailor-made basis, because we can't anticipate our needs. We maintain the smallest possible inventory and concentrate our purchases on a day-to-day basis.

"U.S. Steel Supply has helped us reach a high degree of production efficiency in our existing plant area. We've reduced capital investment and eliminated a lot of scrap loss. We get fast replacement of off-standard specifications. We've slashed inventories and brought our goal for a 60-day inventory turnover within range."

Do you have an inventory problem? A scrap problem? A production problem? Perhaps U.S. Steel Supply's new and helpful booklet entitled "How To Subtract Hidden Inventory Costs" can help you solve it. Write to our Chicago Office, or call your nearest U.S. Steel Supply Steel Service Center. You'll find us in the Yellow Pages listed under *Steel*.

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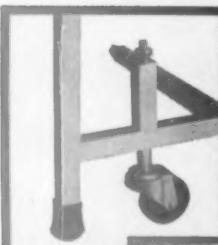
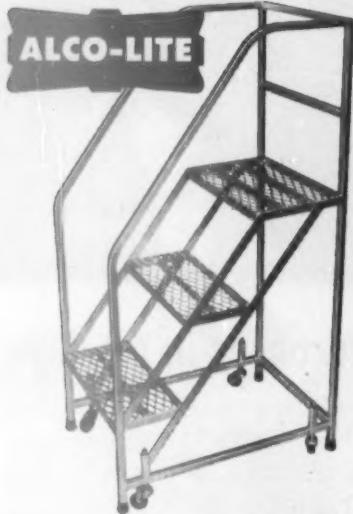


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Baltimore, Birmingham, Boston, Chicago, Moline, Cleveland, Houston, Dallas,
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General Offices: 208 South LaSalle Street, Chicago 4, Ill.

Roomy steps Solid underfoot Easy to handle

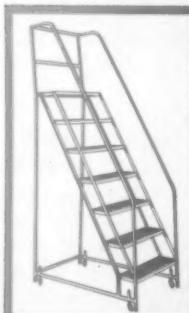
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Special casters retract automatically under user's weight—9 steps and over feature foot activated front caster brake.



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SQUARE tubular steel frame. All-welded steel construction. Safe expanded metal treads.



Special taper lets you stand closer to your work. Entire unit finished with rust-resistant aluminum coating.
FREE CATALOG!

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For More Information Write No. 176
on Inquiry Card—Page 32

Letters To The Editor

PURCHASING FILM

Dear Sir:

Thank you for the loan of the film, "Industrial Purchasing."

It was the unanimous opinion of those who viewed this film that it was an excellent production, and we do appreciate your cooperation.

A. L. Van Keuren
Purchasing Agent
The Welch Grape
Juice Company
Westfield, New York

• We are pleased to lend "Industrial Purchasing" for showing to company and association meetings. The film is 16mm. in full color, with sound. Running time: 22 minutes. For reservations contact Miss Irene Kreidler, PURCHASING Magazine, 205 East 42nd Street, New York 17, New York.

INVITED BACK

Dear Sir:

We were very pleased to see the report of the Carolinas-Virginia meeting in the January 4 issue of your splendid publication.

We would like to take this opportunity to thank your entire staff for the very fine manner in which you have always cooperated with our association and the purchasing profession.

It was certainly a pleasure to have Ned Kellogg with us at Pinehurst and hope we will have the privilege of his or some other staff member's attendance at several of our meetings in 1960.

C. C. Johnson, Jr.
R. J. Reynolds Tobacco Co.
Winston-Salem, N. C.

KEEPING OUR HEAD ABOVE WATER

Dear Sir:

We would like to obtain about 25 reprints of the article "Let's Give Purchasing a Fair Shake" by Frank William Wood, which appeared in the November 23 issue.

This article hits the proverbial nail on the head and we would like to see that every engineer in

our company reads it.

Robert C. Danis
Purchasing Agent
Behlman Engineering Co.
Burbank, Calif.

Dear Sir:

We would like 200 copies of the article, "Let's Give Purchasing A Fair Shake" for distribution within our company.

John J. Kelly
Epsco, Incorporated
Cambridge, Mass.

Dear Sir:

An article entitled, "Let's Give Purchasing A Fair Shake" has occasioned considerable interest among personnel of this Command.

We would like to distribute copies of the article to certain of our employees. We are, therefore, requesting that permission be granted to allow us to reproduce 75 copies of the article for dissemination among our personnel.

J. W. Allen
Chief, Legal Office
Quartermaster Research & Engineering Command, U.S.A.
Natick, Mass.

• Our editorial office has been deluged with requests for multiple copies of this article. We are making every attempt to keep pace with the tremendous demand.

WHAD HE SAY?

Dear Sir:

We are interested in buying tungsten carbide scrap. We are also interested in finding out who would be in the market for crystalline tungsten powder and in what quantities.

Gerald I. Krafus
Shwayder Chemical
Metallurgy Corp.
Detroit, Michigan

• Perhaps some of our readers will be able to help Mr. Krafus.



MT. VERNON DIE CASTINGS

help STANLEY develop stronger, lighter, tougher heavy- duty builders' saws

CASE HISTORIES FROM
MT. VERNON FILES

Stanley packs more power into its new line of low-cost, heavy-duty saws . . . and saves important weight doing it! They have been designed for greater utility, with such features as: Ball bearing guard — fingertip depth-or-bevel setting, uncluttered front — window brush-holder for simpler servicing, extra handling comfort, positive control, etc. Yet, with all these improvements, Stanley is still able to sell these better saws for less!

A big reason for this lower cost is Mt. Vernon's coordinated four-fold die casting service: designing, die-making, casting and machining. Mt. Vernon worked closely with Stanley* to create light, thin-walled aluminum castings with strength to spare. All parts are produced with excellent surface finish to facilitate barrel burnishing. Many fit together without machining thereby contributing to lower manufacturing and assembly costs.

Stanley is typical of the leading manufacturers in the power tool industry who know and rely on Mt. Vernon's experience and facilities for die cast zinc and aluminum parts. As the largest independent die

casting company — with over 200,000 square feet under one roof — our services and equipment are ready to help solve your design and production problems. We'll be glad to discuss the advantages of die castings with you at any time. Just call your nearest Mt. Vernon sales representative.

*Stanley Electric Tools, New Britain, Conn.



Die Casting
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BROOKLYN, N.Y.: Mr. Robert V. Moore, 2317 Flushing 2nd St.
CLEVELAND, OHIO: Mr. Grant Eller, 6 East 194th St.
GUILDFORD, N.Y.: Mr. David H. King, 75 Willow St.
LUTHERVILLE, MD.: Mr. C. McIntosh Gordon, Box 55, R.R. No. 1
PITTSBURGH, PA.: Mr. Andrew W. Anderson, 300 Pasadena Drive So.

QUINCY, MASS.: Mr. Edmund W. Libby, 91 Merrymount Rd.
ROCHESTER, N.Y.: Mr. William Sauers, 101 Briarcliff Rd.
SKANEATELES, N.Y.: Mr. Jerome J. Theobald, 9 E. Genesee St.
STAMFORD, CONN.: Mr. Anker Anderson, Cascade Road
VALLEY FORGE, PA.: Mr. G. T. McMaster, P.O. Box 115

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For More Information Write No. 178 on Inquiry Card—Page 32



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America's
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STEEL BARS

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- A new material . . (the story of FATIGUE-PROOF steel bars)
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on Inquiry Card—Page 32

FOB—"filosofy of buying"

YOU TOO CAN be one of those who can say confidently, "So what's so new about value analysis?" Just memorize and repeat this quotation from *The Saturday Evening Post*:

"The basis of scientific buying is to have an exact knowledge of the requirements to be met; to state those requirements so precisely in specifications that they cannot be misunderstood or evaded; and finally to see that the materials or articles of equipment furnished under the contract comply in every particular with the specifications. It is almost as necessary to draw specifications with a view to protection against securing too much in the way of quality as too little—for surplus quality almost invariably means surplus expense. To overshoot in quality and get a better article than is really needed is not economy, but waste."

The Post carried that little item on value buying in October, 1915.

lations group of the Purchasing Agents Association of Los Angeles goes about its business. Led by indefatigable Bill Broker, it is putting on a strenuous campaign to make the May 22-25, 1960 N.A.P.A. convention in Los Angeles the best attended of all time. If the success of the affair is in direct proportion to the amount of effort and ingenuity the California boys have put forth up to now, the convention should be a whopper. Their latest gimmick is to send all editors a special Mid-winter edition of the Los Angeles Times featuring stories of the growth of Southern California, guides to interesting places, and highlights of the area's convention facilities.

MATERIALS handling-minded purchasing agents: Clark Equipment Company is sponsoring an essay contest with a \$2000 first prize. Contestants are expected to discuss one or more unsolved materials handling problems within an industry or government facility, and propose one or more solutions. Anticipated or unsolved existing problems may be discussed. This is certainly an area in which purchasing people are

IF NO ONE else cares to speak, I'd like to say a few words about California! That old gag is becoming a reality as the public re-

ANNUAL PURCHASING CONVENTION



"Our next speaker needs no introduction..."

involved. Why not try your hand at it? At best, you might win \$2000. At worst, you can analyze a situation in your own plant and clarify it for yourself or for management. Details on the contest can be obtained from any local chapter of the American Materials Handling Society or Industrial Truck Division, Clark Equipment Co., Battle Creek, Mich.

• • •
HERE IS A post-Christmas note from a former P.A. (name supplied on request) which we offer without further comment:

"Year after year it is said that those little messengers of happiness that come to a buyer's home around Christmas are not bribes. They are sincere tokens of appreciation for past favors, and who could be so coarse, so ungracious, so lacking in common decency, to return them or refuse them. Would you destroy the spirit of giving?

"After spending eight months of 1959 doing favors for vendors (such as giving them orders) and only four in a position where such kind consideration is no longer possible, I might still expect some 'small token of appreciation.' But somewhere, somehow the spirit got separated from the gracious and the decent. Only two Christmas cards arrived.

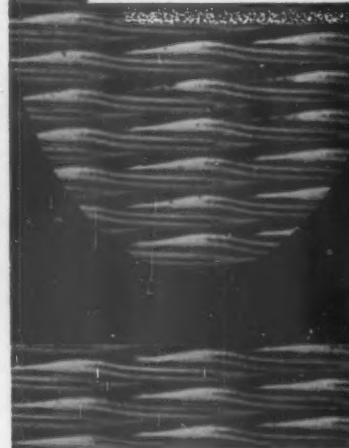
"Thank you. No obligation please."

• • •
BILL ROEMER, director of purchases for Acushnet Process Company, and his management believe in direct action when it comes to matters affecting the welfare of business. In December a letter went out over Bill's signature, and that of R. B. Young, president, to all Acushnet suppliers asking their support for a tax reform bill being proposed by U.S. Representatives A. S. Herlong, Jr., (D-Fla.) and Howard H. Baker (R-Tenn.) Enclosed was a 14-page booklet explaining the bill and the goals it hopes to achieve . . . the end of unfair taxes, speeding of the national debt retirement, a blow at the roots of inflation.



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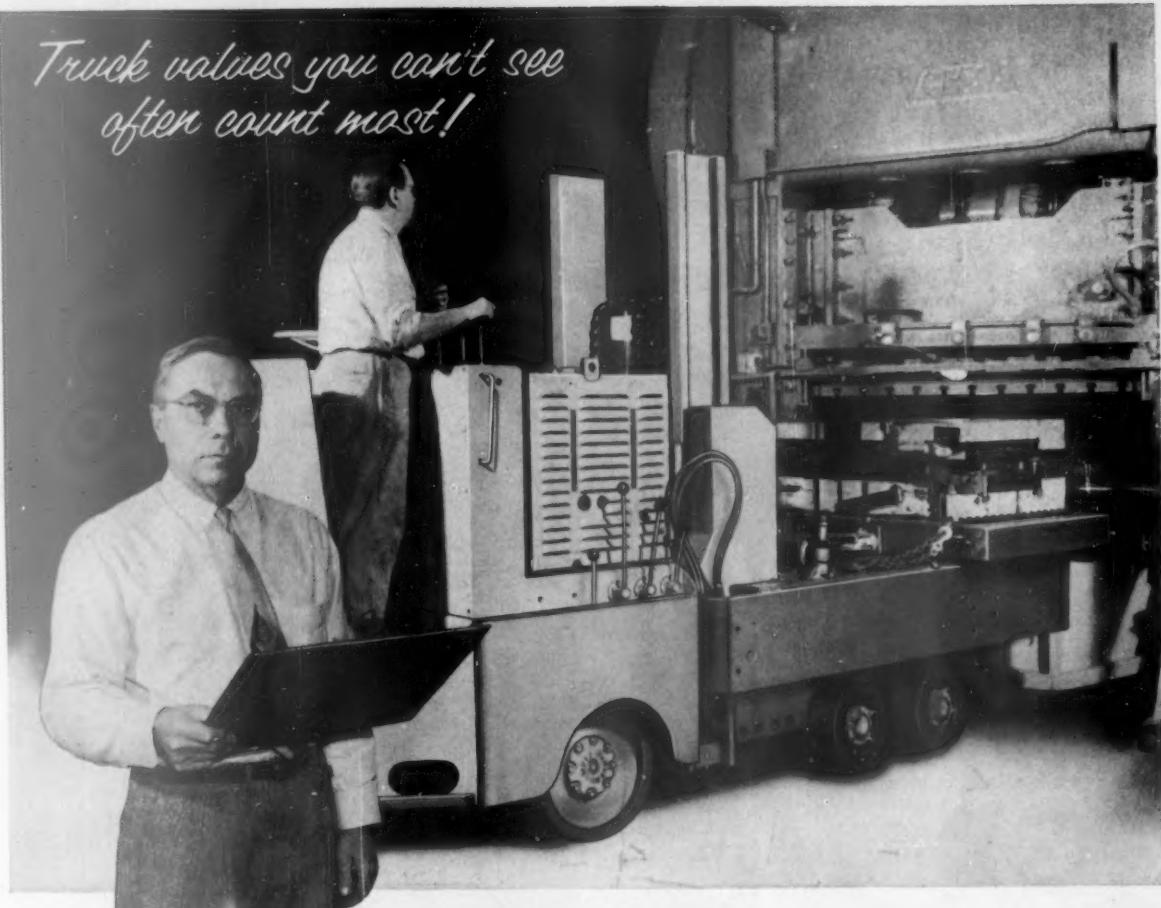
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*Truck values you can't see
often count most!*



Al Rossoll:
Detroit Area Service Engineer

A Detroit auto maker
proved it in the case of:
THE MIDNIGHT DEADLINE

It's four o'clock in the afternoon. The maintenance department of a Detroit auto plant is on the phone to report an accident to a 16,000 pound capacity die handler. The problem is serious...the truck must be ready for the midnight shift, and a needed part—not available from local stock—is 140 miles away in Cleveland.

ELPAR's Detroit service department goes into action. Service engineer George Tomecek heads for Cleveland in his car while partner Al Rossoll begins to organize a repair crew at the plant. Result: the part was delivered, the truck repaired and back in operation by the midnight deadline.

This is a typical example of the service and personal attention that ELPAR users expect. It's not in the specification sheet...and there's no price tag on it...this is a way of doing business that makes friends out of customers. Take advantage of these extra values...make your next truck an ELPAR.

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Leading producer of electric powered fork, platform and crane trucks

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In Purchasing . . .

TO SHORT for a separate article, too good to be passed over. That's our editors' judgment on a great number of ideas and shortcuts they run across in their visits to purchasing departments all over the country. So they've created a whole new section to bring you these helpful hints for better buying. "Purchasing Pointers" appears in every issue, immediately following the editorial page. Be sure to check this page regularly for capsule suggestions on stepping up the efficiency of your department. See p. 49.

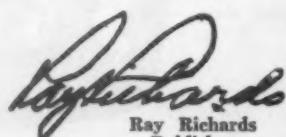
Asociate Editor John Varr de Water is one of those rare birds—a good purchasing man, a good engineer, and a good writer. John, who joined us a few months ago after service with Worthington Corporation as general buyer, displays aspects of all three talents in the article on buying for research on page 50. This is just one example of the type of article you can expect from a keen, experienced observer of the field. There'll be many more of this kind in the months to come—from John and the other members of our editorial staff.

With taxes rising the way they are all of us are worried about possible waste and inefficiency in government buying. If you live in Chicago, however, you can rest assured that your city purchasing department is working hard to make every dollar do a hundred cents' worth of work. Value analysis is the answer—and the City P.A. tells you how his department is using it to save Chicago money. See p. 54.

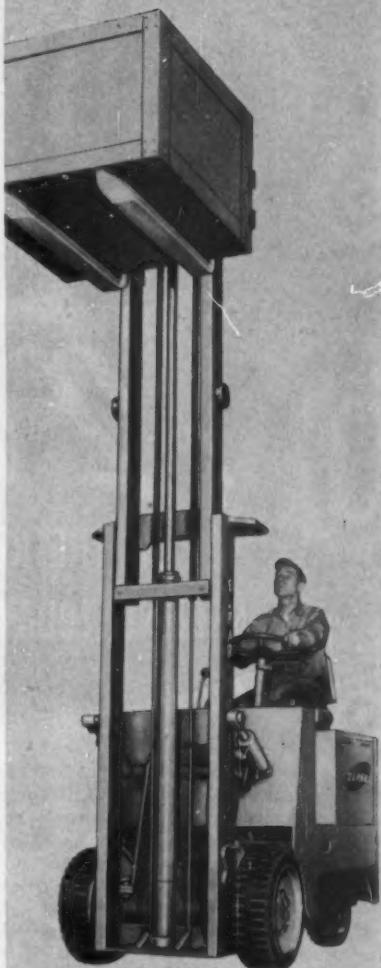
Strange as it may seem to outsiders, the purchasing agent generally has more brand-name and back-door buying troubles with MRO supplies than he does with production items.

The reason is that production buying usually demands more time and attention. Casual or slipshod methods can't be tolerated. Specifications must be closely drawn, standards established, and the highest degree of competition encouraged if management is to get full value. MRO buying becomes a secondary operation and tends to become dominated by the whims and prejudices of plant personnel. But this needn't be the case if your MRO purchasing is properly organized and governed by the same management policies that govern your production buying. In this issue an MRO buying specialist describes the important role purchasing plays in his company's extensive maintenance program. See p. 60.

As usual, you'll find a broad range of purchasing topics covered in this issue: Negotiation (p. 52); Inventory Control (p. 56); and Paperwork (p. 58).


Ray Richards
Publisher

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Coldite 70+ Resistors are the latest development of a firm which, since the early days of radio, has been one of the largest, most de-

pendable resistor suppliers. Laid end to end, the resistors Stackpole has produced would extend around the world so many times you'd get dizzy counting them!

Coldite 70+ Resistors look good—and they're every bit as good as they look. They're unmatched for load life and moisture resistance. What's more, performance far exceeds MIL-R-11 requirements. And now, for the first time in resistor procurement history, you can get such resistors in a complete line of RC-42 (2-watt); RC-32 (1-watt) and RC-20 ($\frac{1}{2}$ -watt) styles FROM STOCK from leading distributors!

FOR ECONOMY AND CONVENIENCE on your smaller lot purchases, write, wire or call for name of nearest Coldite 70+ distributor with complete stocks of all 3 sizes, all 269 standard values, and all 3 standard tolerances.

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Can You Say No?

PURCHASING MAGAZINE
FEBRUARY 1, 1960

DESPITE ALL THE whistling in the dark that is going on, the fight against inflation has suffered a major setback. The steel settlement, it is true, has ended a dangerous impasse and opened the way for a new boom in 1960. For this we can all be thankful.

But there are some cold facts for all to remember, particularly purchasing agents. The new wage agreement is going to cost the steel industry money—a billion dollars according to U.S. Steel's Chairman Roger Blough. There is only one way for the industry to get that money: raise the price of steel. How much and when steel prices will go up is hard to say. The best guesses on the amount range around \$3.50 to \$4.00 a ton. The guesses on the timing are a little less precise. They run from April to December. In any event a steel price rise is practically inevitable.

The purchasing agent who spends time wondering if suppliers will absorb any or all of the steel increase when it comes is daydreaming. No one absorbs higher costs if he can pass them on. So it would be the better part of wisdom to prepare now for price pressure all along the line—not only from suppliers who use steel in their products, but from almost all suppliers. Many will be adversely affected—directly or indirectly—by higher steel prices. Many of those who are not affected will simply be carried away with the excitement of the boom and will try to get in on a good thing while they can.

Each request for an increase will have to be negotiated on its own merits, of course. If a supplier simply is unable to absorb higher raw material costs, you can't force him to sell at a loss. On the other hand, it is your right—and obligation to your company—to demand a reasonable breakdown of his costs as justification for a price increase. Casual costing is the rule rather than the exception in business and all costs—other components, overhead, administrative costs—are often jacked up along with raw material costs in the final price. A vigorous and consistent value and cost analysis program is desirable in purchasing at any time. It's absolutely essential now.

The experts are talking optimistically about a possible 2% increase in the general price level during 1960—nothing so inflationary that it will "burn the house down" according to the *New York Times*. Purchasing must take action against even the sparks of inflation. It cannot passively accept any price increases, no matter how small the percentage, or it will be in default—to itself, its company, and the business community. To put it more bluntly, now is the time, as a prominent purchasing executive once put it, to "get up off our knees and learn to say NO!"

Paul V. Farrell

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For More Information Write No. 184 on Inquiry Card—Page 32

Purchasing Pointers

DON'T KEEP SALESMEN WAITING—It's good manners and good business to see callers promptly. A growing practice in many purchasing departments is to have the receptionist call the buyer at specified intervals (usually not more than 10 minutes) to remind him that a salesman is waiting. At the Westinghouse plant in Columbus, O., callers are given cards stamped with their arrival times. The card is turned in when the salesman goes in for an interview and is time-stamped again. The P. A. reviews these cards at the end of the day, and discusses unreasonable delays with the buyer involved. Now, salesmen rarely wait over an hour to see a buyer.

SHIPMENTS IN ADVANCE—Shipments made in advance of purchase order scheduling are becoming as much of a problem as delayed shipments. One purchasing department has cracked down by disallowing invoices on advance shipments. It uses a form notice to let the supplier know his invoice has been held up. The form makes the company's policy clear, avoids involved, time-consuming correspondence.

SELLING SURPLUS EQUIPMENT—If your company is modernizing and you've got the job of disposing of a lot of used equipment, consider holding an auction. Professionals will handle the whole job for you. It's a lot simpler than trying to get rid of the equipment piecemeal, and the return is just as good, if not better.

GET TWO COPIES OF CATALOGS—If requests for catalogs come through your department, it's a good idea to get two copies of every catalog ordered. The second one can be kept in purchasing if you feel it has information of value. This will help to keep you well informed and up-to-date on the operating departments' interests and requirements.

QUESTIONS ON PURCHASE ORDERS—The purchasing agent who signs an order is not always the right person for vendors to contact when questions arise. Often someone on his staff is more familiar with certain phases of the order. To save time and avoid confusion many purchase orders carry this note: "Correspondence on this order should be directed to . . ." followed by a space for insertion of the responsible buyer's name.

STOCK REPLACEMENT REQUISITIONS—How often do you receive requisitions for stock replacement? Do they trickle in continually? Consider having stores prepare them only once every week or two weeks. This may give you a chance to consolidate items and write fewer orders. And there's a better chance to get quantity discounts on larger orders.



Herbert E. Wendt:

"In buying for a research laboratory, supplying information and knowing value are as important as placing orders."

Better Buying For Better Research

Whether standard bolt or rare chemical, material is as important in the laboratory as it is in manufacturing. An alert purchasing department contributes time, information, and value to the research effort.

By John Van de Water, Technical Editor

A CHEMIST asks you to buy a few pounds of a certain chemical. But all he has is a complicated formula; he can't tell you its name or who makes it. In fact, he isn't quite sure if it is available at all! What would you do?

Herbert E. Wendt, purchasing agent for the Air Reduction Company research laboratories in Murray Hill, N.J., takes such problems in stride. After he had the chemist devise a few approximate names from the formula, he contacted a number of manufacturers of related compounds. The chemical was indeed not available but an intermediate product was, and from this the laboratory could make the required material. Purchasing had helped another research project continue on its way.

Although purchasing at Airco labs is by no means a large operation—volume is well under a million dollars annually—it performs many valuable services. Much of its success is the result of Wendt's three-sided approach to the buying job. He wants at all times to:

- Keep material moving;
- Be a source of information;
- Buy on a value basis;

To keep material moving, more than routine buying is needed. "What we are trying to do here is to provide a service," says Wendt, who represents the corpo-

ration's central purchasing department. "I am an engineer myself and try to understand the lab's problems. People here have peculiar problems and it is often necessary to discuss their requirements with them at length."

Buying Patterns Change

Soon after Wendt took over in 1947, Airco's new research building at Murray Hill was opened. Mechanical development work and the manufacture of special equipment were emphasized at first. In a few years, however, other plants took over these activities and research turned to

chemical and metallurgical lines. For purchasing this meant a change from buying mainly mechanical parts and metals to buying more specialized laboratory supplies. It had to learn new products, cultivate new vendors, and develop new buying patterns.

Today the research facility requires a great variety of materials. Important items include chemicals, laboratory equipment and supplies, test apparatus, tanks and piping, and pressure vessels, as well as more common building and maintenance supplies. "In the years I've been here," says Wendt, "I have bought just about



Grace Yannunzio and Stanley Puza make sure requisitions are processed promptly and orders followed up regularly.

everything except livestock. And I expect that someday we'll need that too."

Walking through the laboratory building one realizes the scope of the purchasing job. In the chemical labs weird structures of glassware rise to the ceilings. In other areas assorted pressure vessels stuck full of valves and gauges stand around like robots. Heat treating ovens, furnaces and welding rigs are fired up for metallurgical studies. Special rooms are crowded with electronic and mechanical testing equipment. A fully equipped machine shop builds special parts. An engineering section filled with a mass of piping and controls represents a pre-pilot plant studying the fractionation of atmospheric gases. This is indeed a formidable array of purchased goods.

Many Phone Orders

Over half the 5000 purchase orders placed each year by Wendt and his two buyer-assistants are telephoned to the vendor. "We have to do a lot of shopping to find the things we need and we don't do much repeat buying," he says. "The important thing is to get technical personnel back to work. It costs money to have them stand around waiting."

On many immediate requirements small quantities are the rule. Working on the basis that all supplies are needed within two weeks, purchasing processes such requisitions in one or two days. Special equipment, instrumentation, and fabricated units are, of course, handled more intensively and may take considerably longer to procure.

Gets New Quotations

Often there is a great deal of delay from the moment a requirement is studied until it is approved for purchase. Quotations obtained early in the study may be obsolete when the purchase order is finally written. Often specifications themselves have been changed so that there is little agreement between quotations and requisitions. Purchasing has to pick up these loose ends, get new quotes if necessary, and make sure Airco's people and the



Chemists and engineers frequently consult the purchasing department's catalog and bulletin file.

vendor understand one another.

One way to keep close to the technical staff is for purchasing to provide valuable help. This is included in Wendt's concept of purchasing as an information source. He goes a long way beyond merely collecting a few catalogs and technical bulletins. "We try to keep a complete catalog file on every conceivable item in which our people may be interested," says Wendt. The catalogs are carefully selected and, arranged by commodities, are kept in the purchasing department easily accessible to anyone who wishes to refer to them. Engineers and chemists use them continually and depend upon them for product information.

In addition to maintaining these files purchasing sends a lot of technical bulletins and product information it receives to technical people who may be interested. They in turn send to purchasing literature they believe should be circulated to others.

"In this way," says Wendt, "we contribute to the interchange of information, a very important function in any research group."

In spite of the emphasis on product information and in spite of Wendt's wide knowledge of materials, finding sources is not always easy. Research people seem to have a facility for asking for the unusual or the unknown.

Finds Special Vendors

"We know the sources of most items," he continues, "but sometimes an engineer wants a gadget that takes a lot of time to find. He won't know exactly what he wants, only what function must be performed. In such cases the engineer and I study catalogs and directories together." We find manufacturers of related equipment, spend time on the phone with them, and eventually run down a source. When special fabrication is required it may be necessary to find a vendor who

(Please turn to page 97)

Negotiation: Key to Purchasing Profits

There is a serious danger in looking on purchasing as merely a clerical or service activity. Yet many managements do. And many purchasing people do little to make them change their opinions. Industrial prosperity depends on a more enlightened view of procurement.

By Louis J. De Rose, Editorial Marketing Consultant



THE MOST SERIOUS problem facing manufacturing industry today is the growing trend toward higher cost and declining net profits. Undoubtedly higher wages, taxes, and expenses of operation and distribution have contributed heavily toward this trend. But, by far, the fastest climbing cost is that of purchased materials, services, and supplies.

A quick and easy explanation of this condition is to blame it on the "inflationary spiral." And there is no denying that such a spiral exists. Certainly, a manufacturer's experience with cost and expense ultimately reflects itself to some degree in the price he charges others. But, if "inflation" were the whole answer, it would follow that a company's sales dollars would increase proportionately, and income and outgo would be more in balance. The real explanation must be sought elsewhere, and the most plausible reason is that too often, companies receive less value in their purchasing than they provide to customers for their products and services.

It is an amazing paradox that purchasing, which can be so vital to company survival, is so little understood and even less a sub-

ject of serious concern. Although it spends the largest portion of every sales dollar, the function is still looked upon by many as little more than a clerical or service activity. They assume purchasing is just a simple routine of processing requisitions and placing orders. They think that by merely soliciting three bids—or some other magic number—purchasing will get "right quality, delivery, and price" from the lowest bidder. The infallible workings of "competition" are supposed to assure that full value is automatically obtained in the "market." Instead of viewing Purchasing as an active force in negotiating and administering procurements to create full value, they assume that value already exists in equal measure from several sources. Accordingly, all purchasing must do is issue purchase orders, and passively wait to receive delivery.

Where Did the Ideas Come From?

It is difficult to say definitely how these notions came into being. Certainly the fact that everyone does some form of purchasing in his personal life makes everyone some sort of an "expert" in this field. Perhaps familiarity

breeds contempt, so that little real analysis is made of purchasing practices on the theory that they are not worth the time and effort. The result, in any event, is the lack of a company-oriented philosophy, and acceptance of popular purchasing concepts. For example, a fundamental of government buying often reflected in industrial purchasing is that equal opportunity must be provided to all suppliers to compete for available business. Stemming from this principle is the additional one that "free, open and competitive bidding" is the desirable method of procurement. Limited and private negotiations must be strictly avoided. The reasoning is that negotiations entail personal discussions, bargaining, proposals and counter-proposals, and are thus subject to undue influence; that at best, it is open to future claims of favoritism. Another principle is that the buyer's interests can be satisfied equally by a number of suppliers, so that the low price is the best price.

But is this true, and are these necessarily sound concepts for industrial purchasing? Are private company funds the same as public funds? Must everyone be given equal opportunity to supply pro-

curement needs? Or is that a privilege extended only to those who clearly demonstrate willingness and ability to meet certain standards of quality, service, and price. Is fear of possible criticism a valid reason to avoid private discussions and bargaining with suppliers? Or must we employ every necessary means to assure procurement value? Is the low price always the best price, and are we not obliged to reject it, if we know that it is not? Lastly, if all industry is in a general inflationary spiral, won't the company bring on itself the effects of that spiral by soliciting only "competitive" bids? Would it not be preferable to screen and select sources and negotiate mutually advantageous agreements? Certainly, the primary objective of industrial Purchasing must be optimum economic benefit. When this is subordinated to ill-defined political, social, or moral considerations—many of them totally irrelevant to business considerations—purchasing value, of necessity, must suffer.

Is Bidding Undesirable?

This is not to suggest that competitive bidding is undesirable, and that negotiation is the only method of purchasing to employ. Both methods are necessary and each has its place in the over-all purchasing concept. For example, competitive bidding is most effective when:

the item of purchase is produced to commercially available standards, and the standards are adequate for company application; purchase specifications are clear and complete, with little room for misinterpretation; there are sufficient qualified and competent suppliers willing and able to compete and each is capable of rendering identical procurement value; the market is active and prices responsive to supply and demand forces.

However, these factors are lacking for much of what industry buys. Industry purchases components and accessories, built to special design, performance, and reliability. It buys parts and assemblies to drawing. It buys equipment, apparatus, and con-

struction for unique applications and production processes. Indeed, the largest percentage of industry purchases are truly of a "special" nature. Yet, little real distinction is made in buying method between this type of requirement and the catalog or shelf-type variety. Even when standard, commercial items are bought in large and continuing quantities, companies, through their buying practices, deny themselves their total purchasing power. Often, they buy these materials as single, one-time purchases.

The key to effective control of purchasing costs is a strong, sophisticated, and profit-conscious purchasing function. Purchasing must act in more than a clerical or service capacity. Specifically:

¶ Purchasing must constantly review its sources, eliminating the dead-wood, and concentrating its efforts with dynamic, imaginative, and efficient suppliers. Procurement value is not achieved through quantity of suppliers, but only through quality of source.

¶ Purchasing must analyze and weigh availability and vendor capability for each requirement. It must not assume that all sources are equally capable at all times to interpret

and meet needs.

¶ Purchasing must take positive action to influence the price of goods and services it buys. It should encourage broad competitive bidding when the product and market permit it. It should negotiate when the product or procurement is unique.

¶ Purchasing must insist upon full value, and no longer tolerate shoddy workmanship, slow delivery, and half-hearted service.

¶ Purchasing must truly administer and follow up vendor performance, so as to anticipate problems before they occur, and eliminate bottlenecks.

¶ Always, purchasing must recognize that purchase dollars are working capital dollars, and that these must be managed for optimum return. When value considerations are sacrificed for non-economic aims, purchasing ceases to "pay its way."

These then are minimum objectives for industrial purchasing. Their achievement is vital to the continued growth and prosperity of industry. The "profit leak" is serious, and its source leads back in part to the purchasing function.

► END





How a City Saves With

The better municipal purchasing departments have been quick to adopt the value buying methods of their industrial counterparts. The leader of a successful program in Chicago offers some sound advice on V.A. for cities.

By John Ward

A typical value analysis project was the development of city standard specifications to replace various vendor designs of these fittings. Savings ran well over 20% on a number of sizes and competition among manufacturers was substantially increased.

SINCE VALUE analysis in governmental purchasing is an integrated effort, some of the elements involved are often confused. Value analysis is not cost analysis. It is not price analysis. It does not always end in standardization. Yet cost analysis, price analysis and standardization can be involved.

It is often said that value analysis is the other side of the price analysis coin. Some definitions state that value analysis means simply a study of values. I like this definition of value analysis: "A study to determine the lowest cost for a needed function" Heinritz even goes so far as to set some of these factors into a formula: "value analysis equals quality divided by price."

The Value Analysis Approach

With this definition in mind, what factors do we have to consider in analyzing an item? Immediately questions arise: What is it?; What does it do?; What is its price?; Its cost?; How is it used?; When is it used?; Who uses it?; What type material will fill the need?; Can it be cast or forged?; What type molding should be used? The problem may

involve a myriad of physical, chemical, thermal, electrical and application factors. Just as important, each value analysis problem is a special one with a background of your particular conditions, personnel, climate, geography, sources of supply, standards, and ability to regulate quality control. Many solutions in value analysis in Chicago may be usable in Philadelphia, or Miami. Many others may not. Careful value analysis studies which sometimes evolve into standards for one user, often are adopted by others on the theory that what is good enough for one city is good enough for another. But the results are often disastrous. The basic elements of true value analysis which were employed in the development of the standard for that particular city were not fully understood, or functional conditions were not comparable.

It is obvious that you should first invade the fertile areas. Commodities or equipment purchased on closed or narrow specifications should be set aside for another day. You may also want to pass up small-quantity or one-source items. Start in areas where cursory examinations show some promise of results. You can come back to the other areas as you become more proficient in your work and after you have a full-fledged program under way.

Let's start with the simple definition—to determine the lowest cost for a needed function—and a given need expressed as a function. For example, we want to provide a means of transmitting a given volume of water under

a given pressure. In other words, we need some water pipe of a given diameter that will withstand certain hydrostatic pressures, and which will have certain physical properties to withstand external stresses when buried in the ground. We need also a means of connecting the pipe in its own line and perhaps with other types of pipe, all in accordance with conditions as they exist in Chicago. Note that the function is one that is described by you, your engineers, your operating people and is peculiar to your conditions. This is the familiar functional type specification.

After we describe our need we are ready to entertain offers from any producer who can satisfy this need, theoretically with any material. Practically we know that pipe in diameters exceeding 24" will immediately trigger interest and competition among those who make cast iron pipe by the pit cast method and those who make it by the centrifugally cast method. Since we have said nothing concerning the material from which it should be made or how it shall be made, the prestressed concrete people will automatically enter the competition. It is assumed that the lines of the prestressed pipe and cast iron pipe are the same. This is a classical illustration of the statement of a function and, where bids are taken, a direct measurement of the cost of performing this function, all tailor-made to your specific needs.

Industry does this sort of thing every day. Suppose they have a part to be manufactured. They

Mr. Ward is purchasing agent of the City of Chicago. This is an abstract of his address before the recent conference of the National Institute of Governmental Purchasing.

Value Analysis

call in their suppliers and show them a part that has to perform a certain function. While it is true they often negotiate and cut corners, which we are not in a position to do, they do apply the same theory we are talking about. They present the problem, and vendors strive to solve the problem for them. We can learn how to adapt their ideas to government buying.

Why not ask the same questions they ask—Should it be cast?; Can it be forged?; Can we spin it?; Should we employ stampings?; Use powder metallurgy?; Brass or nylon?; How about those tolerances—are they consistent?; Rivet it or glue it with an epoxy?; Cadmium plating or parkerizing—bonderizing-type finish?; Do we need five horse power?; Is the corrosion resistance property compatible with other components?; Do we have to have eight cylinders?; Four speeds?; Is its life expectancy in keeping with the project?; When you replace it what does it cost?; How about the personnel who will use it?; Does it require more manpower to produce the needed result?

The possible solutions to problems are endless. With technological information developing by the hour, with processes being displaced almost overnight by new ones, the field for ideas is so broad as to be almost infinite. You will never run out of ideas for value analysis.

I mentioned corrosion resistance. For many years we were purchasing refuse disposal bodies with a corrosion resistant steel body made of SAE 950. On the surface this appeared to be a prudent and wise thing to do. But when this unit was studied during a value analysis session, we found that the operating division of the department of streets and sanitation was retiring the equipment after about five years' service. The corrosion resistant body was still in good shape and ready for many more years of use. But they junked the unit. Specifications



Value analysis is also applied to purchases for the city's many machine shops, like this water meter maintenance shop. This means buyers must understand the nature and capacities of a wide number of machines and equipment.

now call for readily available standard steels that last five years. We have eliminated features which have no useful purpose for us. Naturally this has reduced the cost of the function. This is true value analysis.

Figure Cost of Function

But value analysis doesn't always mean the elimination of plus values. We use leather hydrant valves. If we use ordinary leathers we can get a substantial price advantage, but only to a point. Value analysis in this case indicates that since the cost of digging up a hydrant may exceed by a hundred times the cost of the faulty valve, it is wise to specify the best leather (even to specifying from what part of the animal it shall be taken) to insure the longest life possible. We evaluate the cost—not of the valve—but of the function. This again is real value analysis.

Standardization often is a result of value analysis. However, the fact that standards are now employed or are involved in your study does not exempt them from careful scrutiny. Standards too, must pass the test of value.

Chicago, like other municipalities, uses a tremendous number of

corporation stops, or tapping connections as they are sometimes called, in the water distribution system. Industry has developed standard models which have been placed in large production. It would seem logical that the manufacturer's standard would offer the best price on large runs. However, Chicago has problems and requirements for tapping connections peculiar to its type of installation. Our engineers and using departments have set up a specification known as the "city design", which meets all needs peculiar to Chicago. In a recent series of bids the low bidder quoted the city standard $\frac{3}{4}$ " design at \$1.79, and the manufacturer's standard at \$2.16. On the 1" size, city design was \$1.89, against \$2.44 for the manufacturer's design. There were comparable differences in other sizes. The contractor, of course, welcomes the business either way.

You will find the reverse of this situation where you need more than a minimum design bearing the Underwriters' label, or the function calls for a design that exceeds, for example, the American Water Works Association standard, or even some indus-

(Please turn to page 90)

Managing Raw Materials Is a Purchasing Job

If lack of communications with the plant is a problem when it comes to managing raw materials, it's generally because purchasing isn't in charge of inventories. Here's how one company overcame that problem.

By John Sincere, Midwestern Editor



Director of purchases Harold Garrett (l.) and raw materials manager George D. Brown dope out inventory levels for the next 90 days.



Carl Meyers of the inventory control staff keeps complete records on stocks of steel and insulating materials. Each member of the inventory control group is in charge of specific raw materials.

ALTHOUGH the group that manages raw material inventory at Wagner Electric Company in St. Louis has not been changed, it's much more effective than it used to be.

Why? Because the group has been transferred from production control to purchasing.

Since the change was made, the company has benefited tremendously. The reorganization has improved communications between the plant and purchasing, with the payoff coming in the form of faster inventory turnover. Purchasing now gets advance information about schedules and can plan inventories 90 days in advance. This means that stocks are kept in line with manufacturing requirements.

Here's how the new system works: Harold Garrett, director of purchases, now has two sections reporting to him. One is a typical purchasing group, headed by P.A. Harold Kramer. The other is a seven-man inventory control staff under the supervision of George D. Brown, manager of raw materials.

Since the central purchasing department buys everything for all three of the company's divisions—and since Wagner's sales

Traveling requisitions are used by the raw material staff and the buyers. After receiving a requisition, purchasing notes the p.o. number and the expected

delivery date and then returns the form to inventory control. As a result, inventory control knows at all times exactly what will be coming in and when.

average \$114 million annually—balancing raw materials requirements with production schedules is no mean task. Company officials credit the switch of raw material control to purchasing as one of the most important factors in maintaining inventories at appropriate levels.

Hold Weekly Meetings

At least once a week, Garrett and Brown meet to consider current production requirements. Among the items they take into account are:

- Historical usage
- Future production programs
- Storage space available

These meetings are also usually attended by Joe Roth, chief raw material buyer, who provides procurement advice. Together they review inventory requirements for each of the divisions.

Brown and his inventory control staff are located outside the purchasing area in the middle of the plant floor. The space is shared by the receiving department. This enables the inventory specialists to get information quickly on both production rates and incoming supplies.

Records of planned inventory levels are kept for each division.

By comparing actual stock levels with the approved plans, the inventory group knows exactly what has to be requisitioned.

Traveling requisitions are used by both the raw material group and the buyers. Purchasing fills in the purchase order number and the delivery date for each order and returns the traveling requisition to the inventory department. As a result the inventory control group knows when deliveries are scheduled.

Brown has set up his raw material division to correspond with the organization of the purchasing group. Each man in his group is responsible for specific raw materials.

For example, one man handles nonferrous metals, paints, transformer oils, and grease. Another handles steel and some of the insulation materials. A third handles copper wire and mill products.

Raw material record cards are identified by a different color for each division. Space is provided on these cards for information such as:

- Materials provided in excess of work orders
- Work orders reserved
- Withdrawals

Stock balance

It's part of each man's job in the raw material control group to inform Brown whenever stocks get low. Brown, in turn, works closely with each of the men and keeps them posted on what trends to watch for when they fill orders from production.

A Liaison Man

In essence, Brown is a liaison between purchasing and production. In this unique role, he has been able to make many important contributions to company profits. A typical example: he learned from a buyer that a certain supplier had developed a better and lower cost insulation for motors. When he passed this information on to the production and engineering people, the insulation was incorporated into future designs at a considerable saving to the company.

Result: Better Purchasing

Director of purchases Garrett sums up the company's organization change this way: "There's absolutely no doubt about the fact that we've been doing a better buying job since we took over control of raw material inventories." ▶ END

The costs of preparing many copies of each purchase order were getting out of hand at one plant.

Purchasing adopted a new requisitioning procedure using a duplicating machine to make the extra copies.

Now this work is done in half the time.

Order Typing Cut 50% By New System

A NEW requisitioning procedure has cut purchase order typing time 50% at the Texas City, Tex. plant of Monsanto Chemical Company.

Core of the system is a Multilith master. Copies made from the master serve as the requisition form, purchase order, and receiving report.

Before the Multilith system was put in effect last year, requisitions were prepared by typists in the various plant departments. The requisitions were sent to purchasing, where a multi-part snap-out purchase order—including a receiving copy—was typed. At the same time, the original requisition was destroyed.

Now the basic specifications of materials and supplies are put on the master by a typist in the requisitioning department. When a buyer receives the master, he adds the name of the supplier, the quantity and the price.

Reproduced Quickly

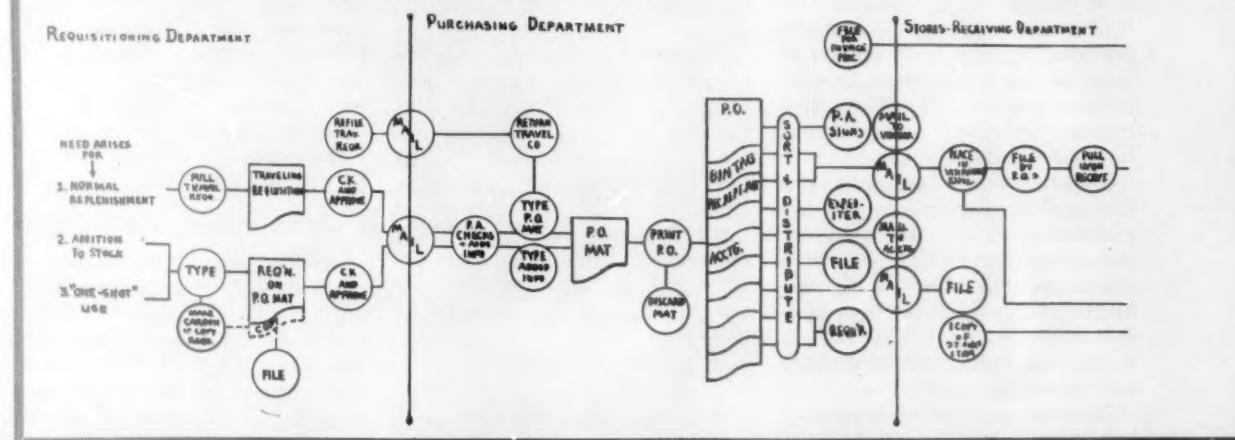
Then the master is placed on an offset duplicating machine where six copies of the purchase order are reproduced. The copies are distributed to the following:

- (1) Vendor
- (2) Requisitioner
- (3) Accounting
- (4) Purchase Order Alphabetical File
- (5) Storeroom Numerical File
- (6) Expediter

The Multilith machine also makes a reproduced master copy which is sent to the stores department. Stores holds this copy until the materials from vendors have been received.

When shipments arrive, the receiving clerk notes the date, quantity, and his name on this copy with a special pencil. Then stores' copy of the master is put on Multilith machine in the stores department. The copies run off in the stores department are sent to purchasing and to accounting,

Monsanto's New Purchase Order Processing System



where they are matched with the supplier's invoice before payment.

On partial shipments, another master copy is made on the machine and held until complete order is received. Each time a partial shipment arrives, another master is made. The final master—and its resulting copies—thus contain a complete record of the delivery dates and quantities received for each order.

Monsanto leased the two model 80 Multilith machines from the manufacturer. The machines are compact and easy to operate. The purchase order typist now has to spend only about an hour a day at the machine which means it can also be used by other departments for their records and forms.

The duplicate master copies are kept by the stores department in a Visirecord cabinet. As the orders arrive, the copies are pulled and the necessary information inserted.

Monsanto also uses the Multilith process with its traveling requisitions. It's an extremely important use because traveling requisitions are employed for 50% of all requisitions placed.

Main difference in the use of the Multilith for traveling requisitions is that the typing is done in the purchasing department. After a buyer works out the variable information on an order, a girl in the pur-



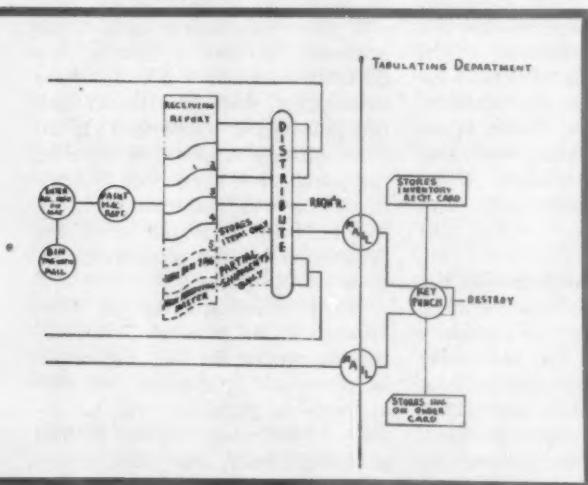
Lynn Kindle, a stenographer in Monsanto's purchasing department, checks with Charles Gentry, data processing department, on use of offset duplicator employed to make purchase order copies.

chasing department transcribes the standard information from the traveling requisition to the master and also adds the new date. From this point on the procedure is the same as previously described.

When Monsanto first decided to adopt the Multilith purchase order system, special instructions were given to all requisitioners. It was stressed that the masters should be handled as little and as carefully as possible, since it requires special cleaning to remove fingerprints.

By using the Multilith system, Monsanto purchasing is saving a great deal of time and effort in the entire purchase order procedure. And there is never any chance of a purchasing typist making an error while transferring requisition specifications to the purchase order.

Another big advantage: there is less confusion when orders placed by phone are received before the stores department gets a purchase order copy. Now as soon as the telephone order is placed, a Multilith copy is run off and sent to stores. When the supplier's truck arrives at the plant, stores, is ready to process the material quickly and efficiently. ► END





Who Buys M.R.O. Supplies?

This article is based on talks made at the 11th Plant Maintenance and Engineering Show in Philadelphia on January 26. The first part of the article is adapted from the remarks of Walter F. West, purchasing engineer, Merck Sharp & Dohme Division, Merck & Co. Excerpts from a talk by Philip G. Damm, chief plant engineer of the division, appear on page 62.

Brand-name specifying and back-door selling haven't completely disappeared from industry. Many maintenance supplies buyers, particularly, are still plagued by them.

A purchasing engineer and a plant engineer describe how M.R.O. buying is handled in their company to the satisfaction of both.

MAINTEANCE does not have a place in purchasing any more than purchasing has a place in maintenance. Each department has its job to do and ideally they complement each other. This does not mean that each can sit on its own side of the building and never see the other. Constant communication, cooperation and mutual understanding are necessary. In terms of specific responsibility, where do you draw the line between maintenance and purchasing?

Let's take the problem areas one by one.

First, should maintenance specify the vendor? At Merck Sharp & Dohme, it has always been very clear that purchasing has the complete responsibility for specifying the vendor provided, of course, purchasing is buying the exact article that maintenance wants and not a substitute. This requires a lot of cooperation.

It is not always possible or practical to keep vendors' representatives completely away from maintenance personnel. Because of this occasionally necessary direct contact, purchasing must carefully consider any suggestions for sources that maintenance might have. If there is a good reason for sticking with a source maintenance recommends, there is no reason why purchasing can't follow this recommendation. However, the responsibility is still with purchasing.

Should maintenance specify the manufacturer? The answer here is a qualified yes, if your company has standardized on particular items for particular applications. Maintenance certainly knows the application better than the purchasing agent. The answer on other items which are not stand-

ardized can be yes, but only to a degree.

Purchasing has the responsibility to select the manufacturer when maintenance doesn't specify and to suggest other manufacturers even when one is specified if it appears advantageous. These suggestions must be carried right up the management ladder if purchasing feels that it is not receiving proper consideration. If the right atmosphere has been developed between purchasing and engineering or maintenance, all these suggestions should receive proper consideration, even at the lowest levels.

Should maintenance contact salesmen or manufacturers' representatives directly? It sounds very dictatorial to tell a maintenance man in a supervisory position that he can't pick up the telephone and call a manufacturer for help if he is in trouble. The maintenance supervisor may be looking for technical information only, but it often turns out that this technical information includes a recommendation that certain parts or materials be purchased.

If your purchasing agent is an engineer, it should not be too difficult to convince a maintenance supervisor that he should call the purchasing agent first. If direct contact appears advisable, the purchasing agent can arrange it. Under these circumstances, he is then fully aware of what has gone on when the requisition arrives on his desk.

The purchasing agent can even arrange to be present in the direct discussion. In fact, he should be present if it appears that any appreciable purchase will be involved. In many cases, it will probably work out that direct contact is not necessary. In these

For Better Maintenance Buying

What Purchasing Should Do:

(1) It must have an efficient expediting set-up so that on call it can advise Maintenance of the status of any order.

(2) It must know maintenance problems—the terminology and basic technology of what is to be bought, the pressures maintenance is under, the problems of making something else do until the right item is delivered, etc.

(3) It must not unnecessarily hold requisitions before ordering. If for some reason it is necessary to do so, it should tell maintenance why.

(4) It should not substitute items from a different manufacturer or of different specifications without conference.

(5) It should keep in constant communication with maintenance on all problems that involve both. This includes, of course, suggesting new ideas.

(6) It must constantly search out new sources and have them available so that it can promptly buy any item or service that maintenance should want.

What Maintenance Should Do:

(1) It should anticipate needs as much as possible to allow for a reasonable amount of time to buy.

(2) Requisitions must be written completely with all specifications. It is very time-consuming for both maintenance and purchasing if purchasing must call back to fill in missing information.

(3) It should keep purchasing informed in the same way that purchasing informs it.

(4) It should be realistic in demands for rushes. Everyone wants to get his item first and since maintenance gets the requests first from the production departments, it must determine which ones are really needed the most. If everything is rushed, the result is that nothing is.

(5) It must be open-minded about new products and materials and new vendors and new contractors. It is awfully easy to sit back and say, "I like what I've been getting and I don't want anything else." But a company can get old-fashioned very fast with this attitude.

cases, the purchasing agent can save the maintenance supervisor quite a bit of time. Summarizing the answer, as far as I can see, it should never be necessary for maintenance to contact salesmen directly.

Should salesmen contact maintenance directly? Emphatically, no. Talking to salesmen is a tremendously time consuming operation. One of purchasing's responsibilities, as stated before, is to screen the salesmen that come in. If this is done efficiently, the purchasing agent not only knows all the available sources that others in the company are familiar with, but also saves maintenance men or engineers a lot of time in unnecessary conversation with people who cannot help them. The key to the effective working of this situation is an efficient and polite—but firm—receptionist to direct all salesmen initially to purchasing regardless of whom they ask for.

How important is price? The purchasing man who buys on price alone is not doing his job.

On the other hand neither is the purchasing man who ignores the price. Each purchase must be weighed on its own merits.

For example, on a standard item which may be purchased from many different sources, all from stock, prices can be a very important factor, usually the determining factor, the only other consideration being the service. In the case of custom metal fabrications, the wise purchasing agent will solicit bids from fabricators of more or less equal skill and quality of workmanship. This may not always be the highest quality fabricator if you need only a rough job. If this is done, then the job should be awarded to the lowest bidder. The same would apply on small construction contract work or maintenance contract work. If maintenance or purchasing will not agree to give a job to a bidder if he is low then it is not fair to the contractor to ask him to bid. If this is followed, again price can be the determining factor.

This question of price, in general, is often a sore point and I doubt if there is a maintenance

man living who does not think that purchasing places too much emphasis upon it. Once more, close cooperation and constant communication are the solution. It must be understood that no one is trying to put anything over on anyone else. We should repeat here an earlier statement that one of purchasing's jobs is to get the most value for each dollar spent. This can often mean that a higher price will produce better value when factors of service, quality, payment and delivery terms, and general vendor cooperation are taken into account.

What part should purchasing play in having maintenance work performed by contractors? To start with, the purchasing agent should know a sufficient number of contractors for each type work and for each size job. He should not only know their names and addresses, but also their method of doing business, their integrity, the quality of their workmanship, how well they cooperate and how fast they pay their bills. If this is so, there is no reason why purchasing can't serve exactly the

An Engineer Looks at M. R. O. Buying



Philip G. Damm

Highlights of a talk made by Philip G. Damm, chief plant engineer, Merck Sharp & Dohme Division, Merck & Co., at the Plant Maintenance and Engineering Show:

"We have an enviable relationship with purchasing in that we have a purchasing engineer who was formerly a plant engineer. He knows many of our problems and their technical aspects. This makes for better mutual understanding.

"If we want a particular item we will specify it by name or type. We have an agreement with purchasing that they will make no substitutions without notifying us. Both parties must agree before any change is made. We may even suggest a supplier but in no way do we hold the purchasing department to the use of this supplier. This provides a good check and balance system between maintenance and purchasing.

"In general, if a salesman calls, we refer him to purchasing. There are a large number calling each day, and since only a few can be helpful, we try to have purchasing screen them before they visit the maintenance department. Many times purchasing calls to say a visiting salesman might be of some help and asks if we want to see him. This feel for maintenance problems is a must for any purchasing department.

"We have standardized on some items—particularly piping and plumbing supplies. We have not standardized to any great extent on equipment, such as pumps, motors, etc. We limit our selection to three or four manufacturers and therefore feel we can take advantage of improvements, new developments, delivery, price, etc."

same purpose in maintenance contract work as in buying materials and equipment.

At Merck Sharp & Dohme, maintenance will request purchasing, usually verbally, to have contractors come in to look at a specific job. The number of contractors called depends upon the size of the job and the urgency of it. The contractors called in by

purchasing then go over the job with the maintenance supervisor and submit bids in triplicate to the purchasing agent. Upon receipt of the bids, they are reviewed with maintenance and a requisition written by maintenance for the work to be performed by the contractor selected, usually the low bidder. If there is some urgency or if the job is a

hodge-podge of little items difficult to estimate, it may be advisable to perform the work on a time and material or cost plus basis.

We have a policy that all work must be let out on a competitive bid basis unless there is a very good reason for another type of contract. It is one of purchasing's functions to enforce this. If it seems advisable to do the job on a time and material or cost plus basis, it is purchasing's function to sit down with the contractor and negotiate the terms, including labor rates, rental figures, percentages for insurance and taxes, percentages for overhead and profit. For proper control, this is all very necessary and I think you will agree should not take up the time of the maintenance man. The handling of contract work in this manner by purchasing requires closer communication with maintenance than any other phase of buying. Both the purchasing man and the maintenance man should know everything there is to know about the contractor.

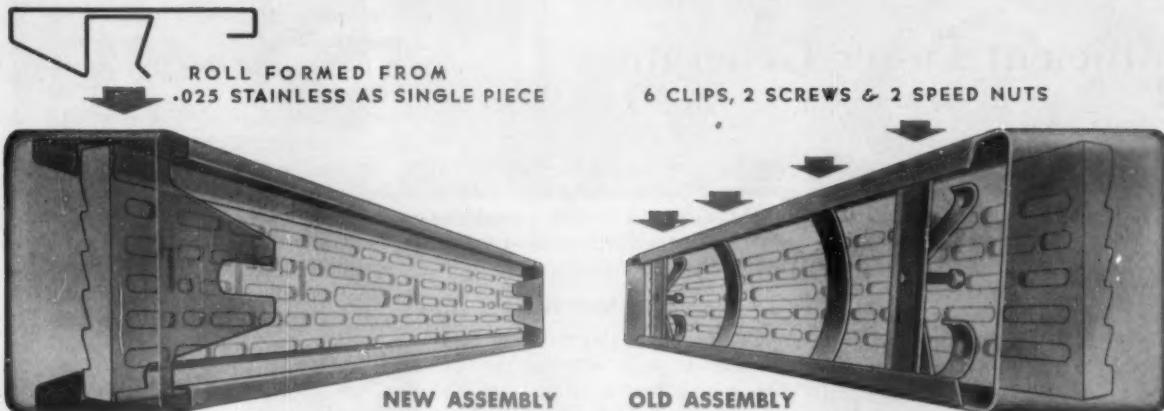
The final problem and probably the biggest one is "The Rush Job." They can be discouraging, they can be frustrating, they can cost money and sleepless nights and they are certainly the foe of both purchasing and maintenance men alike.

I think if there was no such thing as a rush job, the problems between maintenance and purchasing would certainly be cut in half. One big complaint of maintenance is that on such jobs, going through purchasing takes too much time. If this is so in your company, then purchasing should do something about it.

At Merck Sharp & Dohme, we have made a great effort to convince maintenance, and I hope successfully, that we not only do not cause them any delay, we can actually save them time. In order to convince anyone, however, we have had to set up to handle the rush jobs. This, in a nutshell, means having someone always on hand to drop everything and handle them and to let maintenance know who this person is even in the absence of the buyer.

► END

how one Roll Formed shape eliminated six clips and simplified an assembly



IN DESIGN

An expensive stamping and six clips went into this assembly. The stamping had a bad finish and cracked. Now it's Roll Formed from stainless. The finish is bright, shining and can't stain in use. Cracks are eliminated.

IN PRODUCTION

With the stamping the customer inserted a plastic strip and then welded the clips to retain the strip. Screws were positioned manually. Stampings were not uniform. Plastic breakage was high. The new Roll Formed section eliminates the welding operation, guarantees close tolerances, eliminates plastic breakage and cuts assembly time. Screws are not needed.

IN PURCHASING

Rejects were high. Components were hard to get and stampings came from separate suppliers. Deliveries were off-schedule. Now—Roll Formed sections come from one source and are delivered weekly to an open order. Stainless sections are interwoven with paper to protect finishes. Rejects have been eliminated.

CAN TECHNIQUES LIKE THESE HELP YOU?

Probably yes. The Roll Formed man can tell you. He'll go over your prints . . . work out an applicable section . . . plan deliveries with you. Meanwhile, you'll want Roll Formed Bulletin 1017A. It shows how Roll Formed techniques give greater design freedom, increase production and help eliminate purchasing headaches. Get Bulletin 1017A today.

METALS AND TECHNIQUES

Your sections can be produced in: carbon, galvanized and stainless steel; aluminum, copper, zinc and clad metals. Tubing, shapes, channels and angles can be punched, notched, pierced, cut to length and delivered free of burrs to match your production schedule.

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ROLL FORMED PRODUCTS

COMPANY

Products and Ideas

Fuel Cells Point Way to More Efficient Power Generation

Power sources are being developed today which could make the electric generator and the gasoline engine seem old-fashioned. One of these is the fuel cell.

The Allis Chalmers Manufacturing Company recently took the fuel cell out of the laboratory, put over 1000 together in a tractor, and (through a 20 hp motor) produced enough power to pull a plow. This is particularly impressive because the fuel cell is a device that converts chemical to electrical energy:

- (1) without moving parts
- (2) without significant heat

Because it generates no heat, the fuel cell escapes the high heat energy losses common to other power sources. How do these compare?

Atomic power is, in its present state, primarily a new source of fuel. It is an unusually compact and long-lived fuel, but one which still depends upon the heat cycle

for its conversion to mechanical power. The reactor, as a substitute for the steam boiler, produces energy in the form of heat which is used to make steam.

Problem Still Exists

Gas turbines and rotating combustion engines attempt to improve the low efficiency of the gasoline engine which, in making mechanical power, produces much useless heat, as the elaborate automobile cooling system testifies. They are refinements which at best replace the cumbersome reciprocating principle with rotary motion; they do not, however, overcome the heat problem.

The battery is perhaps the most direct way yet devised to convert chemical energy to electrical energy. But as this energy is stored in electrodes and electrolyte within the cell, capacity is limited. Although the chemical process can be reversed to some extent

by recharging, it eventually comes to a halt and the battery—or its component material—has to be replaced.

As a device which provides direct current power, the fuel cell resembles the battery in that it consists of electrodes in an electrolyte. But it cannot store energy. A fuel, such as hydrogen or propane, is supplied from an external source and converted from chemical to electrical energy.

In theory, the fuel cell can supply power as long as the fuel supply lasts. In practice, it does eventually wear out from stray chemical reactions.

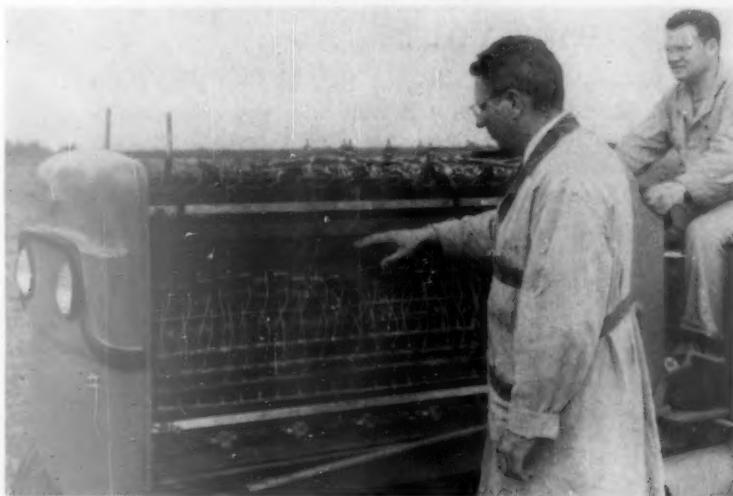
In the cell, the mixture of fuel gases is fed to the anode where it is adsorbed by a catalyst coating which aids the reaction. As the gas reacts with the electrolyte, a stream of electrons, (actually direct current) is released to the external circuit. In the meantime, electrons returning from the external circuit react with oxygen at the cathode and re-form the ions used up at the anode. The overall reaction consumes fuel gases to yield water vapor and carbon dioxide to produce the flow of electrons.

In Four Banks

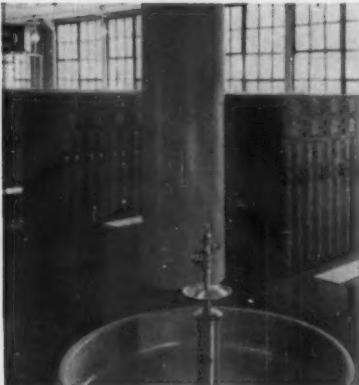
In the Allis Chalmers tractor, 1008 cells are connected in 112 units of nine cells each. They are arranged in four banks. The current flows through a busbar to a standard d-c controller.

The controller has two levers. One, the speed control, varies the amount of current going to the motor by placing the cell banks in series or parallel. The other reverses the tractor by changing the polarity of the current flow to the motor.

Engineers see in the fuel cell a valuable energy conversion method without a theoretical limit of efficiency. The possibility of direct fuel conversion at an efficiency of 90% compares impressively with the best diesel engine which is about 40% efficient. Immediate application of the fuel cell is seen particularly for low-voltage constant loads such as electric-plating water purification, galvanizing, electrolytic cleaning, and electrolytic metal refining.



Electricity produced by fuel cells powers this experimental tractor. Chemical reactions between fuel gases, mostly propane, and oxygen with an electrolyte in the cells produce 15 kilowatts of electricity. Direct current goes through busbars to controller which regulates speed and direction by controlling the amount of current reaching a 20-hp motor.



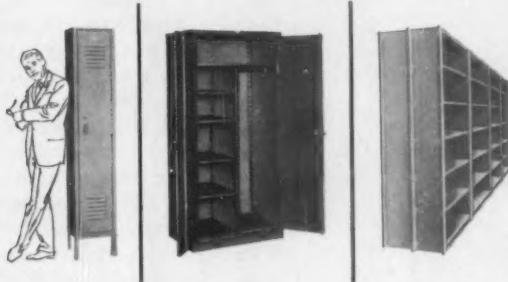
PENCO-PLANNED locker rooms encourage neatness, employee pride and efficiency. And the lockers will provide long term, attractive, trouble-free service.



PENCO SHELVING lets you utilize space from floor to ceiling, keeps valuable stocks off floors, tightens inventory control, helps employees work faster, more smoothly.



GLEAMING FINISH on all Penco Steel Lockers will remain permanent as a result of a special, pre-enamel phosphatizing step that assures a tight enamel bond, permanent tough finish!



These are tools, too!

Storage is as active a part of over-all plant operations as production lines or tools. Whatever your storage needs and space, large or small, Penco Planning can show you how to put Penco steel lockers, cabinets and shelving to work to produce savings. Penco-planned storage helps speed materials handling, break bottle-necks, cut damage to parts and products, slash inventory time, streamline plant housekeeping and control pilfering.

When can your Penco Dealer give you a hand? Write direct for helpful catalogs: General Shelving Catalog No. 2400; Locker Catalog No. 6000.



ALAN WOOD STEEL COMPANY
PENCO DIVISION
410 Brower Avenue, Oaks, Pennsylvania
Steel Lockers • Steel Cabinets • Steel Shelving • Book Case Units



PENCO PLANNING can help you have an "industrial filing system" to feed production lines, protect costly parts, systematize any operation in your plant!



PENCO T-LINE Boltless Steel Shelving is assembled fast with efficient channel clips that slip into place without tools. You can cut original installation labor costs up to 50%. Penco Shelves are easy and fast to rearrange as required.

For More Information Write No. 186 on Inquiry Card—Page 32

FEBRUARY 1, 1960

65



No. 1 in a series of washroom survey comments
from "SBS soap counselors"

I showed them how to
save money by putting
the soap at the worker's
fingertips!

Waring G. Houston

is the SBS soap counselor in the New England area. A specialist in industrial soaps for several years, he has helped many plants pinpoint the most effective and economical solutions to their skin cleansing problems. Here's a good example.



"After showing our presentation OPERATION PINPOINT to an eastern rubber company, I made a survey of their skin hygiene conditions and wash-up practices. They had a real (and costly) problem in removal of butyl vulcanizing cement from hands . . . especially after the cement had dried. Gloves couldn't be worn for this work and protective hand creams proved only partially effective. Consequently, workers made many extra trips to the washroom . . . and this was costing the company plenty in lost production time. I suggested that they simply bring the soap to the workers by using our SBS-30 Waterless Cleanser. It easily removes adhesives and tough soils, discourages the use of harmful solvents . . . eliminates all those extra, time-consuming trips to the washroom."

Money-saving suggestions like this begin with OPERATION PINPOINT — a thought-provoking presentation filled with facts about skin hygiene and washroom maintenance. The SBS soap counselor serving your area can pinpoint the right soap to do every skin cleansing job best and at lowest cost in your plant. Let him show you OPERATION PINPOINT . . . just call your nearest SBS office, collect.



the washword of industry

SBS
Sugar-beet products co.

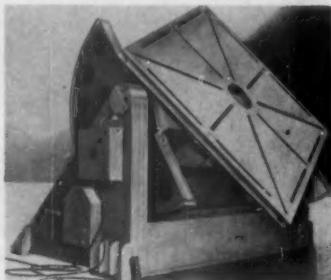
SAGINAW, MICH. • Los Angeles, Calif. • Newark, N.J.
CANADA: Chemical By-Products, Ltd., Toronto, Ontario



For More Information Write No. 187 on Inquiry Card—Page 32

Products

175 Ton Capacity Welding Positioner



A new welding positioner features 175 ton capacity. Rated at 350,000 lbs. capacity at 12 in. center of gravity location, positioner is shipped completely assembled from factory and can be moved from site to site by rail. Four-speed gearshift transmission affords selective variable speed ranges from .08 rpm minimum to .40 rpm. A 120 in. sq. steel fabricated sandwich design table with 8 radial and periphery slots provides for maximum bolting or clamping. Aronson Machine Co., Arcade, N.Y.

Write No. 18 on Inquiry Card—Page 32

New, Spark-Proof Rigid Rubber Hose



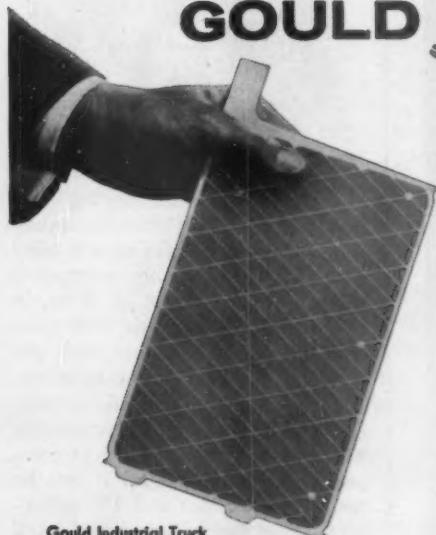
Rubber hose reinforced with rigid vinyl is intended for use in industrial applications where dust and gases create explosion hazards. Designed to replace wire-reinforced hose which might cause sparking when rubber wears through, new hose consists of rubber core wrapped with a continuous coil of 3/16 in. round, rigid vinyl rod for added strength and rigidity. Both core and coil are then wrapped with exterior layer of abrasion resistant rubber. Lawrence Hose Co., Trenton, N.J.

Write No. 19 on Inquiry Card—Page 32
PURCHASING

25% MORE BATTERY LIFE FREE!



WITH THE NEW GOULD SILCONIC PLATE



Gould Industrial Truck
Batteries with Silconic Plates
resist corrosion, hold their charge
and last longer.

Used on all motive power batteries, the Silconic Plate prevents grid corrosion, the most common cause of battery failure. Here's the principle: Gould introduces silver and cobalt into active materials of the positive plates. Silver and cobalt migrate to—and collect on—positive grid members, forming an insoluble oxide surface impervious to acid and oxygen attack. The longer the battery operates, the deeper the silver-cobalt penetrates into the grid metal, thus prolonging life. In applications where batteries are idle for periods of time, Gould's Silconic Plate prevents migration of materials to the negative plate, effectively reducing self-discharge within the cell.

For greater overall strength, arsenic is added to the antimonial alloy of the plate, resulting in an extremely dense, homogeneous grid *free of flaws*. This vital new physical and chemical strength—together with Gould's compact battery design—add up to the most advanced motive power battery you can buy. Write today or call your local Gould representative. He's listed under "Batteries Industrial" in the yellow pages. Gould-National Batteries, Inc., Trenton 7, N. J. IN CANADA, WRITE TO GOULD-NATIONAL BATTERIES OF CANADA, LTD., 1819 YONGE STREET, TORONTO, ONTARIO.

More Power to you from **GOULD**

For More Information Write No. 188 on Inquiry Card—Page 32

Are you designing to series 60 standards? If so, specify Bristol.



This DOUBLE-DIAMOND knurl marks the BRISTOL "Series '60"

the cap screw that holds more . . . indents less . . . wrenches tighter than ever before . . . meets or exceeds all new "Series 1960" standards of Socket Screw Manufacturers' Committee. Of course, regular Bristol "Series 1936" standard screws are still available in hex or Bristol Multiple Spline.

Precision socket screw manufacturers since 1913



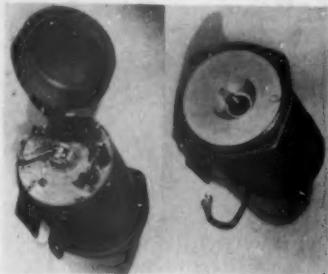
* Made in sizes as small as No. 0 in Alloy Steel and Stainless Steel. Cap screws up to 1½" diameter.

THE BRISTOL COMPANY Socket Screw Division
Waterbury 20, Conn.

For More Information Write No. 189 on Inquiry Card—Page 32

Products

New Fractional HP Jet Pump Motor



A new fractional hp jet pump motor combines true integration with the pump it drives and protection, accessibility and streamlining of functioning parts. Sealed cavity in motor's drive end casting permits pump impeller to couple directly to its shaft. Sealed capsule design is utilized, and totally enclosed removable canopy housing guards starting switch, actuator, capacitor, thermostat and terminal board from all foreign matter. A. O. Smith Corp., Electric Motor Div., Tipp City, Ohio.

Write No. 20 on Inquiry Card—Page 32

Vibrating Test Unit for Quality Control



A new vibration testing machine is now available for industrial production lines as a quality control unit. Machine operates at a fixed displacement of $\frac{1}{8}$ in, in speed range of 420 to 1200 rpm. Vibrations delivered to test object will dislodge solder splatters, separate poor electrical connections and detect improperly tightened fasteners. Unit is compact and portable, and it can be used to test radio and TV assemblies, electronic equipment, small appliances, instruments, clocks, etc. L.A.B. Corp., P.O. Box 278, Skaneateles, N.Y.

Write No. 21 on Inquiry Card—Page 32

Since Purchasing put in Bostitch stapling,
Management's been calling this the
"Savings Department."



The only profit you can make in your shipping room is the money you can save. An excellent way to save money is to switch to Bostitch stapling. Comparison proves that stapling is faster than other fastening methods, time after time. The speed advantage can be substantial.

Often the cost of staples is less than for other fasteners. Changing to stapling may make it possible for you to use more economical and lighter weight containers than those you have been using. You save on freight costs. And husky stapled cartons often reduce damage.

Lighter, stronger stapled cartons can usually be stacked higher to make storage more economical. Then, too, you can set up stapled cartons as you need them—quickly and with limited space, minimum skill. And because cartons can be stored flat until you need them, you are able to save still more storage space.

To find if there are stapling savings to be made in your shipping room, call in your Bostitch Economy Man. He'll be glad to answer questions. He's listed under "Bostitch" in your telephone directory, or you can write to the address below.

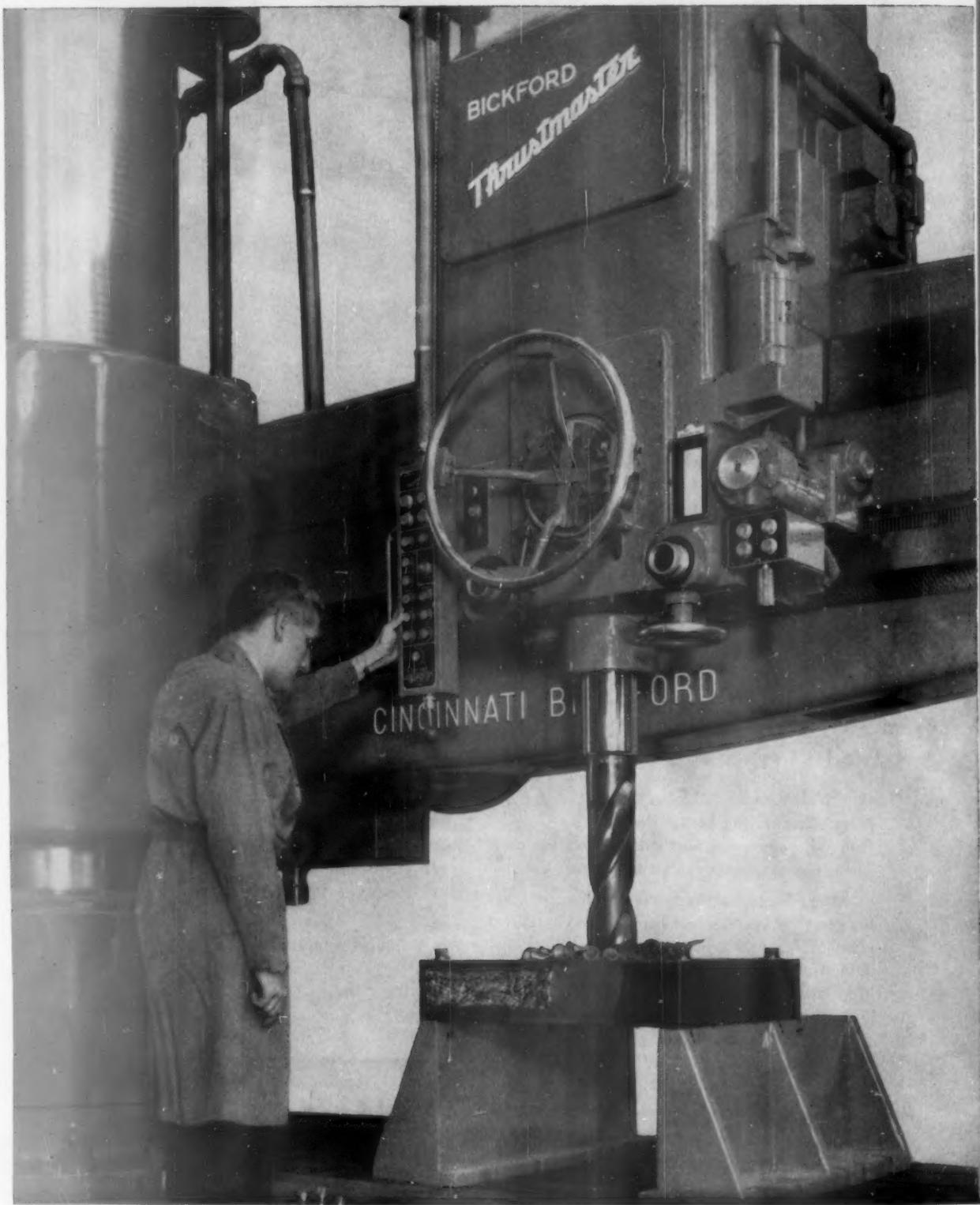
Fasten it better and faster with

BOSTITCH®
STAPLERS AND STAPLES

722 BRIGGS DRIVE, EAST GREENWICH, RHODE ISLAND

For More Information Write No. 190 on Inquiry Card—Page 32

Morse Drills



DO IT AGAIN...

TAKE THE THRUST OF "THE WORLD'S MOST POWERFUL RADIAL DRILL"

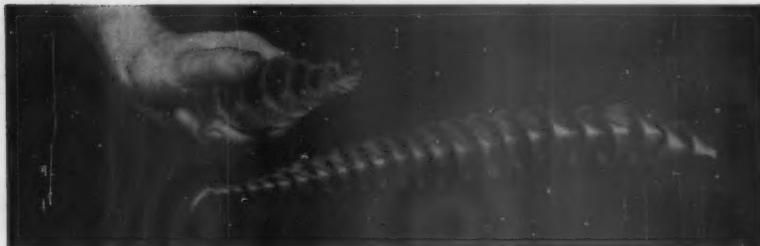
To demonstrate their new 50-horsepower, pushbutton-operated Thrustmaster...the most powerful radial drill ever built...

Cincinnati Bickford tooled up with the toughest twist drill on the market—Morse.

Why Morse? Because other drill manufacturers threw up their hands at producing a drill to match the Thrustmaster's power. But Morse took on the job, applied a regular taper shank drill right off

the shelf that more than meets the requirements of this exceptionally powerful machine.

If you haven't already experienced the demonstrated superiority of the world's most complete line of quality cutting tools, call your Morse-Franchised Distributor today. He'll gladly show you the practical economies of buying the best... Morse Cutting Tools.



Look at these chips made during demonstration of the Thrustmaster.

Feed: .087" per revolution at 105 RPM

Drill: Regular Morse Taper Shank Drill
(style 1302) driven in solid steel.



Morse CUTTING TOOLS

MORSE TWIST DRILL & MACHINE COMPANY
NEW BEDFORD, MASSACHUSETTS

WAREHOUSES IN NEW YORK, CHICAGO, DETROIT, DALLAS, SAN FRANCISCO

A Division of VAN NORMAN INDUSTRIES, INC.



MORSE means "THE MOST" in Cutting Tools

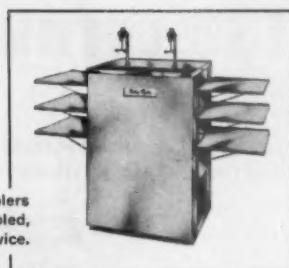
© 1960



NOONTIME, U.S.A. The clock strikes twelve—all America steps out to lunch. In company cafeterias employees have a welcome chance to relax and associate with other fellow members. Halsey Taylor is in this picture—has been for years—with modern cafeteria coolers that speed service and provide health-safe drinking water. Plant and management know that whether it's a cooler or a fountain, if it's Taylor-made it's always dependable! *The Halsey W. Taylor Co., Warren, Ohio.*



They're many different kinds of cafeteria coolers in the Halsey Taylor line . . . some water-cooled, others air-cooled, all designed for lifetime service.



ASK FOR LATEST CATALOG, SEE SWEET'S OR THE YELLOW PAGES

For More Information Write No. 192 on Inquiry Card—Page 32

Products

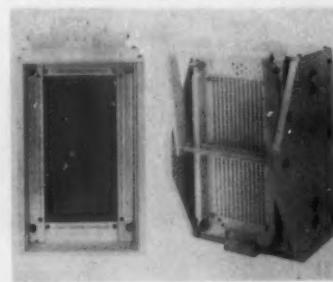
Two Automatic Units for Welding



Two new automatic units have been developed for use with a tungsten-inert-gas welding process. Electronically controlled units can be used for either AC or DC welding, without an accessory control, using argon, helium or their mixtures as shielding gases. Models are identical except that one has 3 in. and 12 in. offset bars to which the machine holder can be attached. Principal advantages are: sensitivity and response to changes in arc length; touch or high frequency starts; 360 degree rotation; and vertical travel distance of 14½ in. **Air Reduction Sales Co., 150 East 42nd St., N.Y. 17, N.Y.**

Write No. 22 on Inquiry Card—Page 32

New Static Punched Card Sensor



A static punched card sensor in a new design is adaptable to both IBM and Remington-Rand systems. Improvements include: standard taper tab receptacles

(Please turn to page 76)
For More Information about ad on facing page Write No. 193 on Inquiry Card—pg. 32→

PURCHASING



The Stamp of Final Approval
on ILLINOIS GEARS



International SYMBOL of QUALITY

This symbol of quality on ILLINOIS GEARS has earned extraordinary confidence on the part of gear users throughout the world. It is emblematic of the high standards of precision and quality that characterize every step in the manufacture of ILLINOIS GEARS.

In fact, so painstaking is this control of quality that each and every gear must pass a great many exacting inspections before it has earned the right to carry this stamp of final approval...your assurance of the very finest gears in the world! In the unmatched facilities of ILLINOIS GEAR one machine out of every six...and one man out of every ten are devoted to quality control.

If you are not now using or specifying ILLINOIS GEARS we invite you to profit from this rich heritage of quality that has established a new concept in gear manufacture.

Look for this mark the symbol on finer gears



ILLINOIS
GEAR &
MACHINE
COMPANY
Reg U.S. Pat. Off.

Gears for Every Purpose ... one gear or 10,000 or more

ILLINOIS GEAR & MACHINE COMPANY

2108 NORTH NATCHEZ AVENUE • CHICAGO 35, ILLINOIS

What you should know about

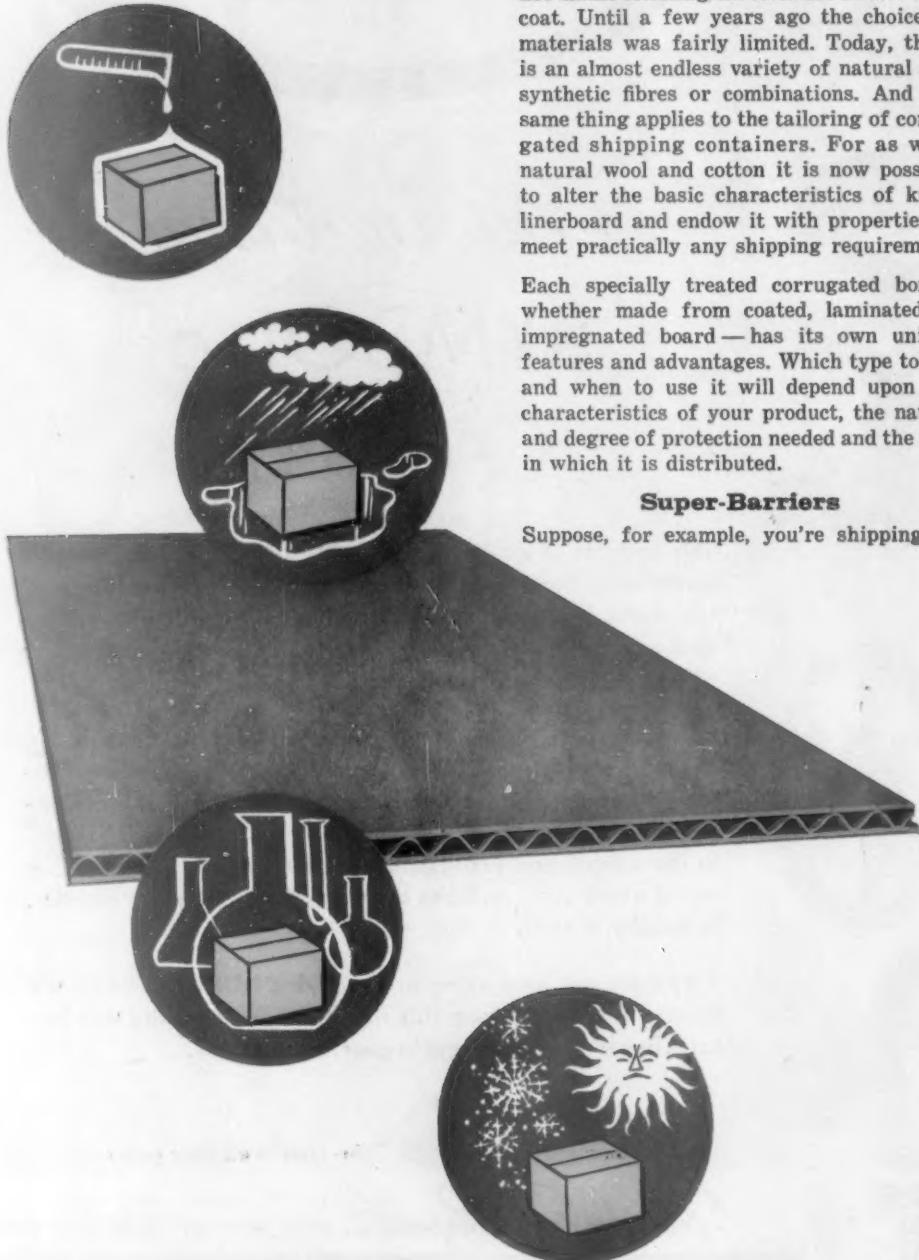
When should your corrugated

Selecting the most appropriate type of linerboard for your shipping container is not unlike selecting the cloth for a suit . . . or coat. Until a few years ago the choice of materials was fairly limited. Today, there is an almost endless variety of natural and synthetic fibres or combinations. And the same thing applies to the tailoring of corrugated shipping containers. For as with natural wool and cotton it is now possible to alter the basic characteristics of kraft linerboard and endow it with properties to meet practically any shipping requirement.

Each specially treated corrugated box — whether made from coated, laminated or impregnated board — has its own unique features and advantages. Which type to use and when to use it will depend upon the characteristics of your product, the nature and degree of protection needed and the way in which it is distributed.

Super-Barriers

Suppose, for example, you're shipping an



special board for Union Boxes

box get special treatment?

item that requires positive protection against moisture attack. Asphalt laminations and certain plastic coatings may offer an excellent solution. Other coatings and laminations, such as glassine, make an effective barrier to the migration of grease and oil. Still others resist chemical attack or provide insulation against temperature extremes. There are even special coatings that inhibit the transmission of gases—a property often capitalized upon where aromatic scents and flavors must be retained.

In addition, there are special wax or plastic coatings that may be applied to the interior of boxes to protect items such as highly polished furniture, or delicate textiles from abrasion and picking. In some cases these coatings may also be used as release agents to facilitate emptying the box of its contents.

At the other end of the scale, there are special non-slip or non-skid coatings which give a rough high friction "skin" to the outside of the box. This built-in safety factor has

helped save thousands of dollars in reduced damage costs and speedier handling and warehousing.

Added Security, Sales Appeal

Increasingly too, varnish applications are being applied to container-board to protect surfaces against scuffing and to help create greater eye and sales appeal by imparting a slick, glossy finish and background for printed art and copy.

This modern "marriage" of different materials to basic kraft board has made possible outstanding new shipping economy and efficiency. It has also opened up a host of hitherto unheard of uses for corrugated boxes.

Ask your Union Box representative to tell you more about them—and how they might profitably be applied to your product or packaging operation. He'll be happy to do so. It's another part of the Union Box complete packaging service to all corrugated shippers.



This machine in Union-Camp research laboratory laminates and coats paper and board with water- and solvent-based solutions which need no heat during application.

Special impregnated board solves problem of shipping oily agricultural twines. Resistance to water and oil strike-through increases product protection—leaves box clean and neat.

Good skid resistance, here being measured at Union-Camp's laboratory, is often an important factor in better box handling, stacking and palletizing.



UNION BOXES

UNION BAG-CAMP PAPER Corporation

233 BROADWAY, NEW YORK 7, N. Y.

Factories: Savannah, Ga., Trenton, N.J., Chicago, Ill., Lakeland, Fla., Spartanburg, N.C., Jamestown, N.C.

Sales Offices: Eastern Division—144 E. State Street, Trenton, N. J.

Southern Division—P.O. Box 570, Savannah, Ga.; P.O. Box 454, Lakeland, Fla.

P.O. Box 1965, Spartanburg, N. C., Jamestown, N. C.

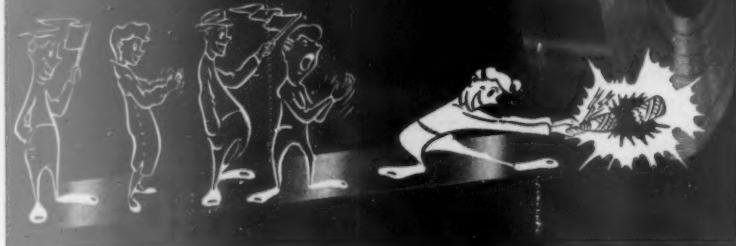
Western Division—4545 W. Palmer, Chicago, Ill.

For More Information Write No. 194 on Inquiry Card—Page 32

You can name your own

WRM PHOSPHOR BRONZE

*-because it's Custom-Processed
for YOUR application*



Waterbury Rolling Mills can tailor phosphor bronze so closely to your specific requirements that it practically becomes your private brand. You'll get the finish, grain size and physical properties that will suit your purpose to a "T".

Waterbury has the latest in rolling and annealing equipment plus the intimate knowledge of the metal that comes with over 50 years of specialization. That's why WRM can make phosphor bronze that will behave exactly as you want it to under your tools and in your product.

Available in strip, sheet or coil

For complete information on Waterbury Rolling Mills facilities, abilities and metals, send for this new, 60-page catalog. A phone call or a note on your letterhead will bring it to you, without obligation.

WATERBURY ROLLING MILLS, INC.
Main Offices and Plant:
Waterbury, Conn. — Tel. Plaza 4-0151
• In N.Y.C.—Murray Hill 7-1246
• In Phila.—Adams 3-1869
• In Chicago—Sheldrake 3-0100
• In Detroit—DUnkirk 6-3444
• In Cleveland—Yellowstone 2-6455
ALSO NICKEL SILVER
AND OTHER SPECIAL ALLOYS

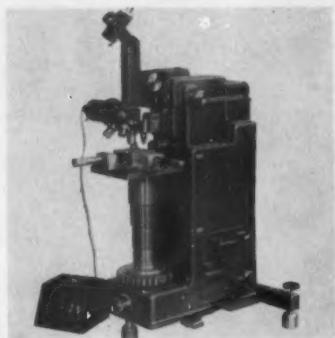
For More Information Write No. 195 on Inquiry Card—Page 32

Products

(Continued from page 72)

which connect users' leads to sensor switches; switch isolation; rugged construction and modern-styled case. For programs which involve simple switching, card programming offers definite space and economy advantages. Sensors have applications in chemical, gas, and oil processing, steel mill and machine tool control, automatic warehousing, etc. Taurus Corp. 8 Coryell St., Lambertville, N.J. Write No. 23 on Inquiry Card—Page 32

Micro Hardness Tester for Production Control



A new micro hardness tester which is basically a production control instrument features the same accuracy as standard research instruments used in metallurgical laboratories. Tester has vertical capacity of 8 in. and applies dead weight loads from 1 to 1000 grams. Additional weights for applying loads up to 10,000 grams can be obtained as optional equipment. Unit is specially designed to test unmounted parts so they can be returned to production or stock bin, but it can also be used for mounted specimens, small parts, sheet metal, wire, etc. Torsion Balance Co., Clifton, N.J.

Write No. 24 on Inquiry Card—Page 32

CLASSIFIED ADVERTISEMENT

FOR SALE

3 Carton Stitchers—Some bottom some top. Bliss—Acme & New Jersey—\$125.00 up. Send for pictures or come to see them. The Schneider Printing Company, Palmyra, Pa.

Here's a stainless lollipop sea water can't lick



This large (48" dia., 1701 lbs.) and unusual stainless casting was fabricated by Allegheny Ludlum's Buffalo, N.Y. foundry. It is scheduled for service under the most severe operating conditions, functioning as a wafer valve disc at 25 psi pressure in sea water. Since long life and tight closing are essential in this application, corrosion resistant Type 304 Allegheny Stainless was specified.

Some unusual techniques were employed in the fabrication of this casting. Although the entire valve disc was

cast as a single piece, its sides are hollow, with a skin only $\frac{3}{4}$ " thick. The center shaft was cast solid at the same time the side wings were cored, permitting the single piece, seamless part desired.

If you have a casting problem, or *any* problem that involves corrosion resistance, long life, resistance to wear and abrasion, call the Allegheny Ludlum Sales Office nearest you. An A-L Sales Engineer is ready to put his skills and those of the A-L Technical Staff promptly at your disposal, to serve your requirements from the largest and most complete line of stainless products on the market.

*Allegheny Ludlum Steel Corporation, Oliver Building,
Pittsburgh 22, Pennsylvania.*

WBW 6663



Write for this 28-page booklet
on A-L STAINLESS CASTINGS

28 pages of valuable and complete data on stainless castings: analyses, properties, technical data on handling and heat treatment, typical applications, how to order, etc.

ADDRESS DEPT. P-26

Make it BETTER and LONGER LASTING with

**ALLEGHENY
STAINLESS**



For More Information Write No. 196 on Inquiry Card—Page 32

Office Equipment and Supplies

What's Needed In Today's Office?

COMPANIES without air conditioning, sound control, fluorescent lighting and other accoutrements of a modern office may find it increasingly difficult to get and hold competent office personnel. Offices around the country have been spruced up.

Conditions reminiscent of the "sweat shop" era are still to be found in a few places. But they are being eliminated as that type company goes out of business or learns the error of its ways.

The first major changes that occurred in improving the appearance of the office were in lighting and ventilation. These were followed by a more extensive use of color and by more attractive office furnishings.

Today's Office

What is the office like today? A recent National Office Management Association poll of its members revealed some significant trends relating to office environment.

LEADING TRENDS

Use Paint on Walls	94%
Use Composition Flooring	90%
Use Fluorescent Lighting	83%
Use Pastel Colors on Walls	77%
Service Lamps When Burn-Outs Occur	75%
Have Sound Control	75%
Have Air Conditioning	72%
Use Noma's Standard 60-80 sq. ft. (Space Allocation)	62%
Use Wood Furniture In Private Offices	55%
Use Metal Furniture In General Offices	45%

where it is deafening. Some of the methods being used to combat this crescendo are: acoustical ceilings (almost all are using this method), sound absorbing pads under machines, rugs, drapes, sound absorbing partitions, noiseless-type machines, and acoustically treated machine enclosures.

Replies to the question on sound-conditioning seem to indicate a need for improvement in the old methods or establishment of newer techniques. Only 10% said their present method was excellent, but a total of 99% feel they are getting some value. And this value takes the form of improved employee morale, increased accuracy, and increased volume of work.

One per cent said that the sound-conditioning method being used was a waste of money. But this may simply be a case of using the wrong type.

Advantages of Color

Color in the office? The N.O.M.A. survey found the most frequently mentioned benefit was, "more pleasant surroundings," followed by "reduction of eyestrain."

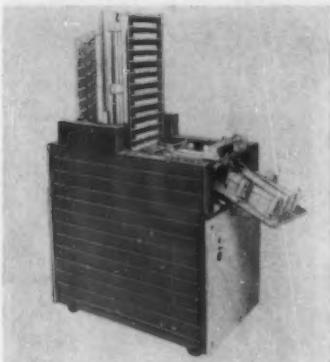
The trend toward the use of dull or medium dull gloss finishes on desks reflects the added attention being given to employee's eyesight. Glass tops are used by only 7%.

Many employers are using music to reduce fatigue and monotony in certain types of office work. Two major points regarding the music worth noting are that it should be instrumental, and that the volume must be set exactly right.

An allowance of 60 to 80 sq. ft. per person for the general office area is rapidly growing in popularity, the survey shows. Sixty-two per cent of the respondents reported that their companies are using this standard, set up and recommended by N.O.M.A.

The full report is available from headquarters of the National Office Management Association, 1931 Old York Road, Willow Grove, Pa., at \$2.00 per copy.

Office Equipment

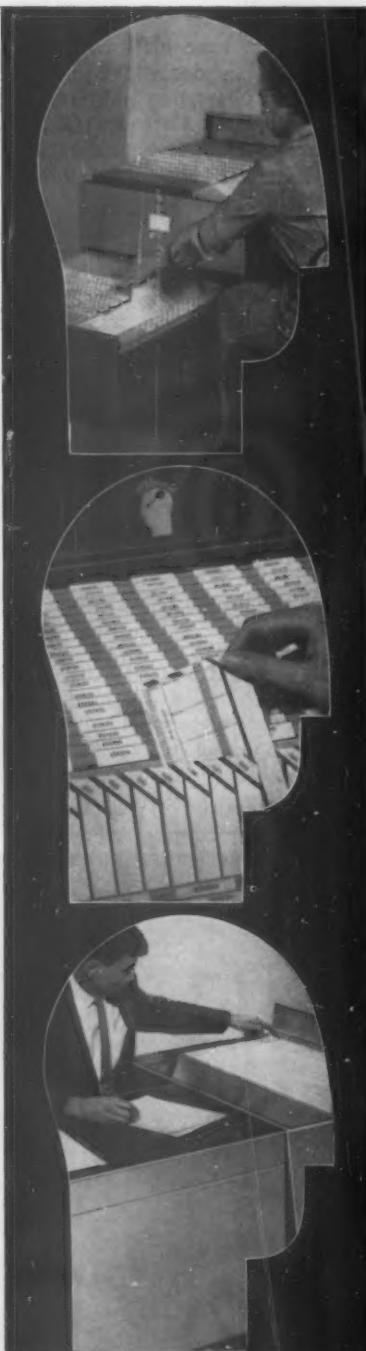


Fully automatic office collator which gathers duplicated sheets into sets at a rate of 6000 per hour has recently been announced by Thomas Collators, Inc., New York, New York. Since no adjustment is necessary for weight or finish of stock, all 12 stations can be loaded in less than one minute. If a sheet misses or doubles the machine stops instantly. Each station holds approximately $\frac{1}{2}$ ream. Write No. 25 on Inquiry Card—Page 25



New device developed for use by organizations whose day-to-day operations require volume transmittal of messages over teletype circuits. Located in the teletype center, the machine permits an executive to pick up the phone on his desk and dictate his message for recording by the machine and subsequent transmittal by the teletypist. Manufactured by Dictaphone Corporation, the new machine consists of two recording-reproducing units as the recording media, and is so arranged that the teletypist can transcribe on the teletypewriter the messages recorded by one of the units while the other continues to record messages.

Write No. 26 on Inquiry Card—Page 32



here's how **VISIrecord**

split-second record location

...at

KELLOGG CO.

accelerated processing 33%...

One VISIrecord system now handles the scheduling and controlling of preventive maintenance for 96 departments. Processing of requisitions was accelerated at least 33%.

...at

J. W. ROBINSON, CO.

reduced inventory time

248 man hours...

The VISIrecord furniture unit control system also helped increase turnover from 2.8 to 3.5, reduced merchandise return by 10% and cut delivery time.

...for the **WEATHERHEAD COMPANY**

saved over \$40,000 the first year...

A VISIrecord system provides finger tip access to accurate records of carriers and routes for shipments to any part of the country. The traffic manager and one clerk check all shipments, picking the most economical carrier.

The world's fastest visible record keeping system

...can help you

VISIrecord Systems Specialists have the know-how to analyze your record-keeping set-up. Their experience and the facilities available to them will enable them to provide you with a time and money-saving system. Write to Dept. P-1 for case histories on above and any other applications.



VISIrecord, Inc.

375 PARK AVENUE, NEW YORK 22, NEW YORK
SYSTEMS SPECIALISTS IN PRINCIPAL CITIES

For More Information Write No. 197 on Inquiry Card—Page 32

Office Equipment



Two important features of a new "Desk Partitioner" are a reversible side and a steel shelf. The reversible shelf permits the unit to be installed as either right or left hand "L". The clamping device prevents marring of desk top during or after installation. Frosted fluted plastic panels are shatterproof and removable. The new unit is a product of Marnay Sales Division, Rockaway Metal Products Corp., 41 East 42 St., New York City.

Write No. 27 on Inquiry Card—Page 32

Time chart aids employees understanding of time records measuring time in tenths and hun-

dredths of an hour. Since many firms use time clocks registering minutes in decimal equivalents, the new chart, available from Cincinnati Time Recorder Co., Cincinnati, Ohio, will explain and clarify the system. Printed in blue on white card stock, it measures 8½" x 11". It is large enough to be posted adjacent to time clocks or nearby bulletin boards.

Write No. 28 on Inquiry Card—Page 32



Fully automatic electric stapler has been introduced by Bostitch, Inc., 2012 Briggs Dr., East Greenwich, R. I. Staples are automatically driven when work is inserted against the combination back gauge and switch release. The

adjustable stapling gauge can be set to any depth up to 4¼ inches. The machine is loaded through a door on the front.

Write No. 29 on Inquiry Card—Page 32



Timing unit serves as a control measure for office managers and foremen to prevent abuse of coffee time breaks. Called Versatimer, it is a self-contained unit that you set for the length of break desired. Press the button sounding buzzer to signify start of break. At the end of the allotted time, the buzzer automatically sounds once again. It has no wires to plug in, is lightweight and portable. It is a product of The Versatile Tool Company, 122 Heywood Avenue, Springfield, Mass.

Write No. 30 on Inquiry Card—Page 32



ACME VISIBLE PHOTO PANELS

Just slip in a new card
instead of retyping
a whole list

Make changes in minutes! Each item on your price or parts list . . . your catalog, directory or index is typed on a separate card. This slips securely into an Acme Visible Photo Panel . . . ready to be photographed for duplicating. No type to set. And, to make changes, just remove old cards, type and insert new ones. No redoing. Acme Visible can also prepare and maintain lists for you. Send coupon for details.



ACME VISIBLE

Acme Visible Records, Inc., 8202 West Allview Drive, Crozet, Va.
Please send free booklet on Photo Panels for time saving preparation of directories, catalogs, price and parts lists, etc.

Name _____

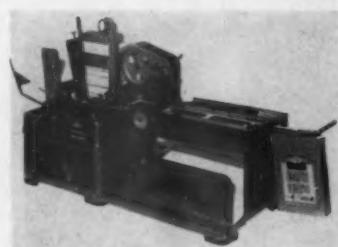
Title _____

Company _____

Address _____

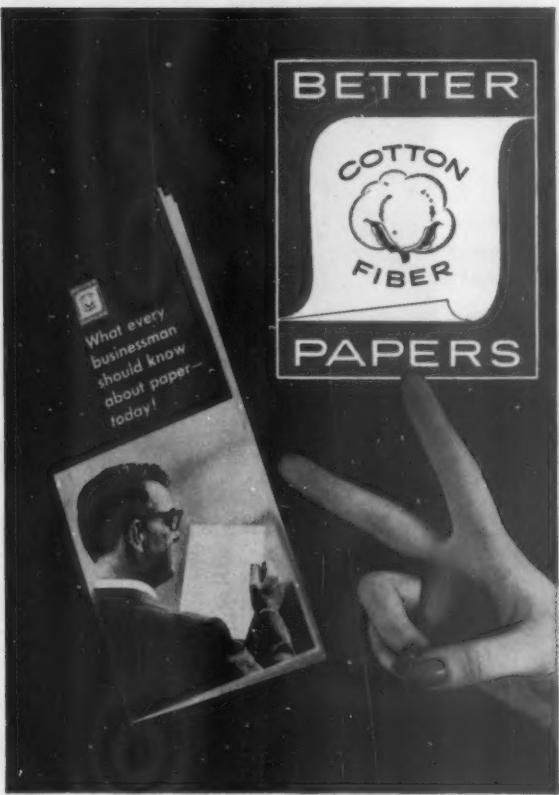
City _____ State _____

For More Information Write No. 198 on Inquiry Card—Page 32



Automatic feed addresser is particularly suited for smaller office operations. The new electric model manufactured by Elliott Addressing Machine Co., Cambridge, Mass. automatically feeds postcards, envelopes, folders, and sheets up to 7" x 10" at the rate of 2000 pieces per hour. Standard features include an attachment to prepare a list on either plain or gummed tape, automatic last stencil stop and print roll throwout actuated when there is no material in addressing position.

Write No. 31 on Inquiry Card—Page 32



Two guides that point the way to better paper buying

The free booklet tells *why* papers made with cotton fiber offer you more in prestige, permanence, performance. The "Better Papers" emblem tells *who* makes them. Send for the booklet; watch for the emblem.

**BETTER PAPERS
ARE MADE WITH
COTTON FIBER**



Cotton Fiber Paper Manufacturers,
122 East 42nd Street, New York 17, N. Y.

LOOK FOR "COTTON" OR "RAG" IN THE WATERMARK OR LABEL
For More Information Write No. 199 on Inquiry Card—Page 32
FEBRUARY 1, 1960

Scripto

S.P.O.* BALL PEN

*SPECIALIZED PLANT AND OFFICE

Saves 50% on costs
... proved in exhaustive
operating tests

When it comes to business, Scripto S.P.O. saves a good 50% of the costs of other pens recently tested for economy and efficiency. In a relentless marathon writing test Scripto won on all counts ... 1. Uniformity of writing. 2. Economy of ink consumption. 3. Lowest "operating costs" of all pens tested—a full 50% lower!

**Here's the record:
The cost for 20 miles of
non-stop writing**

SCRIPTO S.P.O.	\$1.43
BRAND "A"	2.82
BRAND "B"	3.29
BRAND "C"	3.66

Even on cost of refilling, Scripto proved better than 50% more economical. (Two other brands tested weren't refillable at all). Scripto Ball Pen with complete choice of points for general office, stenographic, accounting, etc. Full size refills cost less than 10¢ each in dozen lots. Completely leakproof and specially low priced for office use. Ask your stationer for quotations.

**A complete service
with all these
accessories:**

- Economy priced desk base.
- Memo pad and pen holder



**SCRIPTO now serves industry
with the best in writing...at any price!**

Scripto, Inc., P. O. Box 4847, Atlanta 2, Georgia, U. S. A.

For More Information Write No. 200 on Inquiry Card—Page 32

Association News

Hartlove Tells Baltimore Assn.:

Train A Subordinate To Fill Your Shoes



Clyde S. Hartlove

MEMBERS of the Baltimore Association of Purchasing Agents were recently told to stop working so hard and start managing the department.

Clyde S. Hartlove, training director of the Wm. Schluderberg-T. J. Kурдле Company advised the large group of Baltimore P.A.'s that "The purchasing supervisor has not widened his horizon to the point where he is the manager of his department.

Delegate Responsibility

"Develop your work group to the point where you can delegate the greater part of your work to subordinates. This will leave you the time to study, investigate and develop procedures to improve the total purchasing job."

Mr. Hartlove struck out at supervisors who won't let go of their work. "They hang on so tightly to the minute details that they miss opportunities for promotion; they made themselves indispensable."

The best way to get a promotion advised Mr. Hartlove, is "to have someone trained and ready to fill your shoes."

He then followed this advice with a question which every purchasing agent should ask himself, "How many have the guts to do this?"

Mr. Hartlove then turned his attention to what he called "my

four favorite areas of supervisory responsibility." He listed them as: communications, training, discipline and understanding.

Training Director Hartlove told his audience that when things go wrong the best place to look is in communications. "Sometimes incomplete or poorly worded communications cause just as much trouble as none at all," he said.

"A purchasing agent will get a better job done if he plans his communications better and if he does more of it."

Mr. Hartlove moved into the second area of responsibility by reminding the group that, "90% of a purchasing agent's contacts with subordinates are in giving orders, instructing, disciplining or communicating. All of which are training of one sort or another.

"If the purchasing agent is not concerned with a planned system of training and development for his subordinates, he adds to his troubles. Some managers shout that they don't have time to work on training and go merrily on their way fighting all their many problems which are generally caused because they aren't doing any formal training.

Better Training

"Most people, when instructed properly, will go to any end to carry out their work satisfactorily. Train your people better and you

will eliminate many of the detail problems which you claim prevent you from doing long range planning and managing."

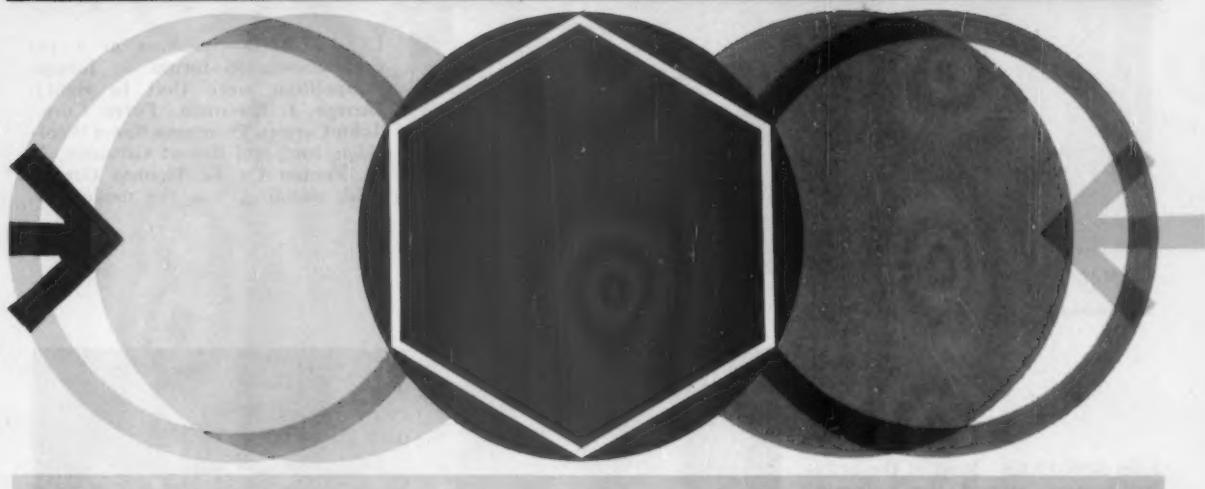
The last two areas of responsibility are directly related to the first two, he pointed out to the group.

About discipline and understanding Mr. Hartlove said: "A climate with good discipline will help you attain good supervision. Lack of discipline will create situations where the fellow one day is told he better get on the ball and produce or he will be fired. Yet, no one had told him in five years that he wasn't producing what was expected from him."

Mr. Hartlove then asked the Baltimore purchasing executives, "How on earth can a person improve his work if no one tells him what is wrong and then counsels him on where and how to improve."

He summed up his suggestions and criticisms by saying, "People bring to the job all their problems as well as their ambitions and desires. We must be interested in their growth as a member of the team. A purchasing executive or manager of a department must fulfill his duties and responsibilities through people. The quality of your supervision has a direct bearing on the success of your operation."

NOW! IMMEDIATELY AVAILABLE
FROM OLIN ALUMINUM...
COLD PROCESSED ROD
AND SCREW MACHINE STOCK

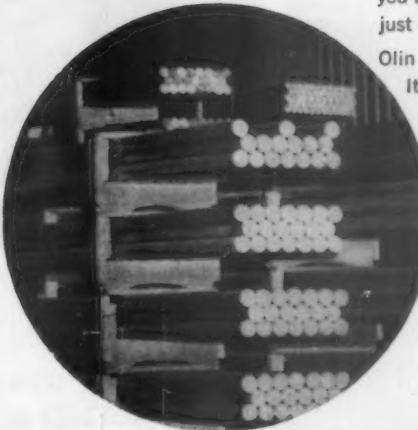


For all the high-quality aluminum rod and screw machine stock you need . . . when you need it and as you need it . . . just call your nearby Olin Aluminum sales office or distributor.

Olin Aluminum is today's fast-moving, machinable metal.

It gives you top-speed cutting. It's rapidly handled and shipped. It's cold processed for uniform grain size (a quality plus). You get three times as many parts per pound as you get with other metals and—in many cases—aluminum parts need no further finishing. You save many ways!

What's more, you can always count on fast technical assistance from the design, metallurgical and technical services of Olin Aluminum—America's new, fully-integrated producer.



Olin STAK-PAK gives you easier handling and greater stackability . . . protects your stock against scratching and abrasion.



OLIN MATHIESON • METALS DIVISION • 400 PARK AVENUE • NEW YORK 22, N. Y.





Association News

Through the eye of PURCHASING'S Camera



CLEVELAND—Speakers at a recent association forum on foreign competition were (left to right): George J. Buerman, Ferro Corp.; John Corson, Thompson Ramo Woolridge, Inc.; and Robert Gresham, A. W. Fenton Co. G. Thomas Greenfield, standing, was the moderator.

LOS ANGELES—Most of the activity centers around the upcoming national convention of the National Association of Purchasing Agents to be held here. Shown at a planning meeting are: (left to right) John Hairgrove, Braun Chemical Company; E. Benton Long, United States Lime Products; C. S. Perkins, Union Oil Company; Raymond Hill, Arizona Public Service Co.; and C. R. Raftery, Autonetics Division of North American Aviation.



HOUSTON—Leland Doland, Doland Industries (center), shakes hands with R. A. Castillo, Joseph T. Ryerson & Son, at the start of a recent association meeting. The attention of Haylett O'Neill of Humble Oil Co., Homer Beard of Moncrief Lenoir, and C. J. Stewart of Stewart & Stevenson Services is drawn away from the greetings.

HOW A SINGLE SOURCE SOLVES YOUR PRODUCTION PROBLEMS



DIE CASTING NEW DURA-PLATE ELECTROPLATING METAL STAMPING POLISHING-PAINTING ANODIZING



Simply funnel your "specs" into the hands of Brown-Lipe-Chapin and you'll automatically eliminate costly, time-consuming piecemeal orders to crowds of suppliers! B-L-C is equipped to take over your complete production . . . lock-stock-and-barrel. We form metal parts—die cast, pressed, rolled or stretch bent—then polish, plate, anodize, paint and ship them for you from either of our plants at Elyria, Ohio, or Syracuse, New York. B-L-C's diversified facilities provide a single source to give you superior economy, quality, on-the-button scheduling from initial tooling to final shipping. What's more, B-L-C's skilled engineers closely supervise your job from the design stage to finished product, to give you satisfaction in every detail! Call or write Brown-Lipe-Chapin, Syracuse, New York.



RELIABILITY by BROWN·LIPE·CHAPIN

DIVISION OF GENERAL MOTORS CORPORATION

For More Information Write No. 202 on Inquiry Card—Page 32

For More Information about ad on following page Write No. 203 on Inquiry Card—pg. 32→

Yale Gas Trucks

with fluid-coupling transmission are tops with operators and planners. Operators go for the low cowl with its wide visibility and greater safety, and for the deep-cushioned seat with easy accessibility from both sides. They like the finger-tip controls for hoist, tilt and direction. Planners find that long clutch life (due to fluid coupling, which eliminates metal-to-metal contact in transmitting power to the drive wheels) cuts down-time and maintenance costs. In addition, this truck saves space through high stacking with optional triplex mast and a short turning radius for narrow aisles. Capacities, 2000-3000 lbs. Yale makes the full line, so when a fluid-coupling gas truck is recommended, you can be sure it's the right truck for the job!

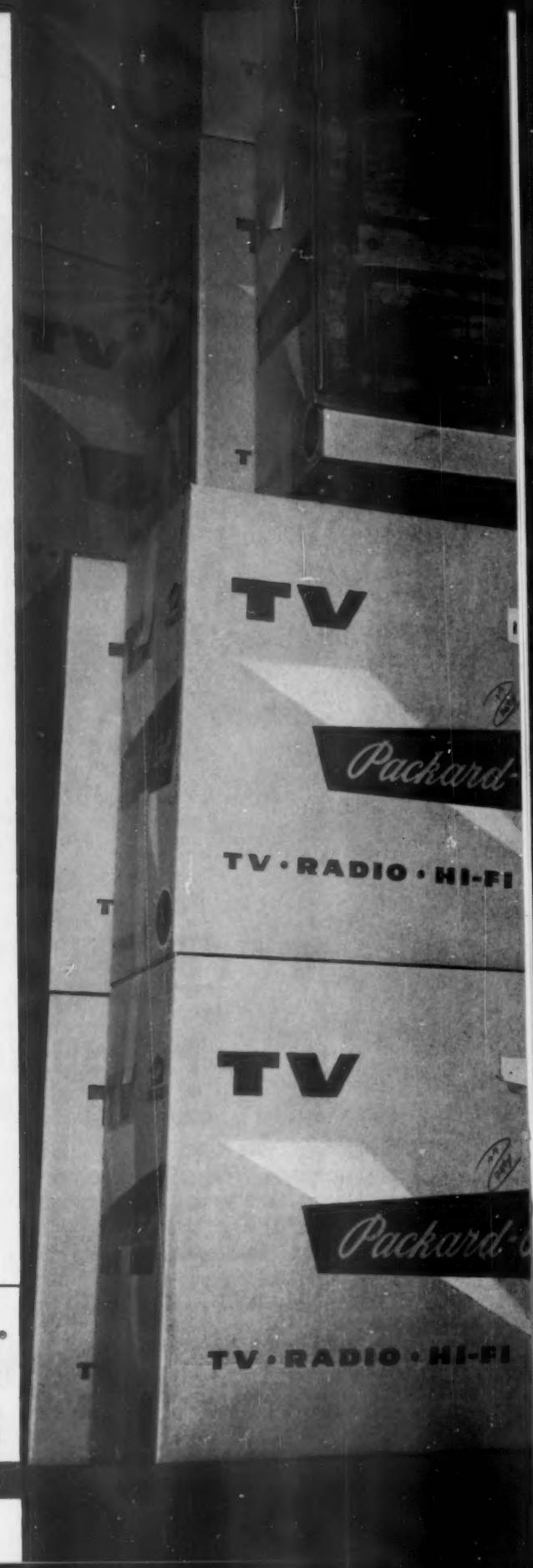
For full information, call your Yale representative or send for free brochure #5003E to The Yale & Towne Manufacturing Co., Materials Handling Div., Philadelphia 15, Pa., Dept. GT-6.

Yale Materials Handling Division, a Division of The Yale & Towne Manufacturing Company. Manufacturing Plants: Philadelphia, Pa., San Leandro, Calif., Forrest City, Ark. Products: Gasoline, Electric, Diesel and LP-Gas Industrial Lift Trucks Worksavers • Warehouses • Hand Trucks • Industrial Tractor Shovels Hand, Air and Electric Hoists.

YALE®

INDUSTRIAL LIFT TRUCKS
TRACTOR SHOVELS • HOISTS

YALE & TOWNE



YALE



**"I get all my charts
with just
one order!"**



"I used to have to buy recording charts from about as many different companies as we had instruments in the plant. Not now—not with that new GC Recording Chart one-order service!"

You, too, will benefit from GC's "one-order service". You'll save time and money and paperwork when you make out just one purchase order for all your company's chart needs.

Only GC keeps more than 15,000 different types of circular, strip and rectangular charts constantly in stock. Our ready-to-ship inventory averages some 8,100,000 items, all produced under controlled-humidity conditions and kept current by GC's own electronic data processors.

GC will help with your stock room problems, too. Order charts in long-term quantities, for example, and be assured that we will ship the charts with the exact regularity you specify.

Ease of ordering, uniformly high quality, economy of costs—GC offers all these. Ask for our Stock List—and for samples.



DISTRIBUTED BY:
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189 Van Rensselaer St., Buffalo 10, N. Y.

A SUBSIDIARY OF:

GRAPHIC CONTROLS CORPORATION
Buffalo 10, New York

For More Information Write No. 204
on Inquiry Card—Page 32

Association News

New P.A. Group In Central Penna.

A new purchasing agents association was recently formed in central Pennsylvania. It was organized by purchasing agents from the Harrisburg-Lancaster-York area at a meeting held in Harrisburg.

Sixty-one purchasing agents in the areas have indicated an interest in joining the association.

Paisley Boney, national vice president of District 5 of the National Association of Purchasing Agents, addressed the organizational meeting and explained N.A.P.A. to those present. The Purchasing Agents Association of Reading also had three representatives present. The Reading Association has agreed to sponsor the Central Pennsylvania Association for membership in N.A.P.A.

The association will either rotate its meetings among Harrisburg, Lancaster, and York or hold its meetings in a central location. The following temporary officers were elected: president, Joseph Keleman, Merck & Company; vice president, Donald B. Moore, Commonwealth of Pennsylvania; secretary, Bert Silver, Commonwealth of Pennsylvania; and treasurer, Sam Shenk, Hubley Manufacturing Company.

Culture In Central Iowa

Members attending the recent meeting of the Central Iowa Association of Purchasing Agents



New member (left) W. J. Loeltz, Brady Motor Freight, is welcomed to his first meeting by membership chairman, Joe Krueger, The Parsons Company.

said it was one of the most outstanding meetings of the year.

The featured speaker was Dr. Millard G. Roberts, president, Parsons College, Fairfield, Iowa. The title of his address was, "Research, Culture and You."



Featured speaker (center) Dr. Millard Roberts, is greeted upon his arrival at the Central Iowa Association meeting by President Art Minor, (left) and Program Chairman Carl Davis.

R. Blough, president of Fairfield Engineering, and Ward Beale of the Marshalltown Container Company each gave brief talks on, "Know Your Company Better."

W. J. Loeltz of Brady Motor Freight, Des Moines, was elected to membership in the association.

Alabama P.A.'s Planning Dinner

Arthur V. Wiebel, president of Tennessee Coal & Iron Division of United States Steel Corp. will be the speaker at the 13th Annual Seller-Buyer Dinner sponsored by the Purchasing Agents Association of Alabama.

The meeting will be held at the Municipal Auditorium in Birmingham on February 11. The purchasing agents invite the salesmen serving industry and institutions of the state to meet with them. C. E. Wiberg, president of the Alabama Association, will host the proceedings at which a crowd of more than 1000 is expected.

George L. Wilson, Jefferson County Commission, is general chairman of the dinner. Carl F. Thomas, Owen-Richards Company, is co-chairman.

Industry

Corning Forms Ceramic Department

A new manufacturing department has been established by the Corning Glass Works, Corning, N. Y., for the production of ceramic parts for the electronics industry. The new group will make ceramic and sintered glass parts for electronic tubes and other devices. It is headed by Philip C. Leffel, Jr., formerly manager of the company's Receiver Bulb Sales Department.

Crane Packing Co. Builds Teflon Plant



A plant devoted exclusively to processing Teflon has been completed by the Crane Packing Co., Morton Grove, Ill. Machining and molding facilities will produce both standard and proprietary items from Teflon tubing, rod, sheet and tape. Sources of contamination such as dust and moisture have been minimized to protect the mechanical, electrical and chemical properties of the material.

Hercules Powder to Build 2nd Polypropylene Plant

The Hercules Powder Co. has announced it will build a multi-million dollar polypropylene plant at Lake Charles, La., the second such plant in two years. The first plant started operation at Parlin, N. J., in 1957.

The new plant will begin operation early in 1961. It is designed for a capacity of 100 million pounds of polypropylene per year. The plastic resin, which is sold under the trade name "Pro-fax," is used in the production of injection moldings, rope, textiles and packaging film.

FEBRUARY 1, 1960

**Choice of the wise buyer
who compares...**

CM HOISTS

CM METEOR ELECTRIC WIRE ROPE HOIST $\frac{1}{2}$ to 5 ton capacities — Compact, enclosed design. Low headroom. Continuous duty motor with thermal overload protection for heavy duty service. Precision bearings and helical gears for long life. Only 110 volts at push button control. Hook suspension; plain, geared or motor driven trolley.



HAND OR ELECTRIC CHAIN OR WIRE ROPE

CM makes them all! So you can choose a hoist that's perfectly suited to your specific needs in a compact, rugged and safe CM design.

CM TROLLEYS AND CRANES



CM LODESTAR ELECTRIC CHAIN HOIST — $\frac{1}{2}$ to 2 ton capacities — First truly heavy duty version of small electric hoist. $\frac{1}{4}$ ton model weighs only 51 lbs. Heavy duty self-adjusting brake, plus exclusive regenerative electrical braking. Upper-lower safety limit switches. CM-Alloy load chain. Single and three phase.



CM CYCLONE Hand Chain Hoist

— Easy to carry. One ton model weighs only 36 pounds. Made of tough aluminum alloy. CM-Alloy load chain. High efficiency. Lifetime lubrication.

CM PULLER — "The One Man Gang" — $\frac{1}{2}$ to 6 ton capacities — Lifts or pulls at any angle. Lever handle operation. Automatic load brake holds at any point. $\frac{1}{4}$ ton model weighs only 13 pounds and fits in a tool box. CM-Alloy load chain.

● **FOR OVER 75 YEARS**, Chisholm-Moore has offered hoist buyers the newest and most efficient designs, the most rugged construction, and the greatest number of valuable operating and safety features. CM hoists operate with a very minimum of maintenance. They give years of satisfying service.

Request catalog and name of local stocking distributor.



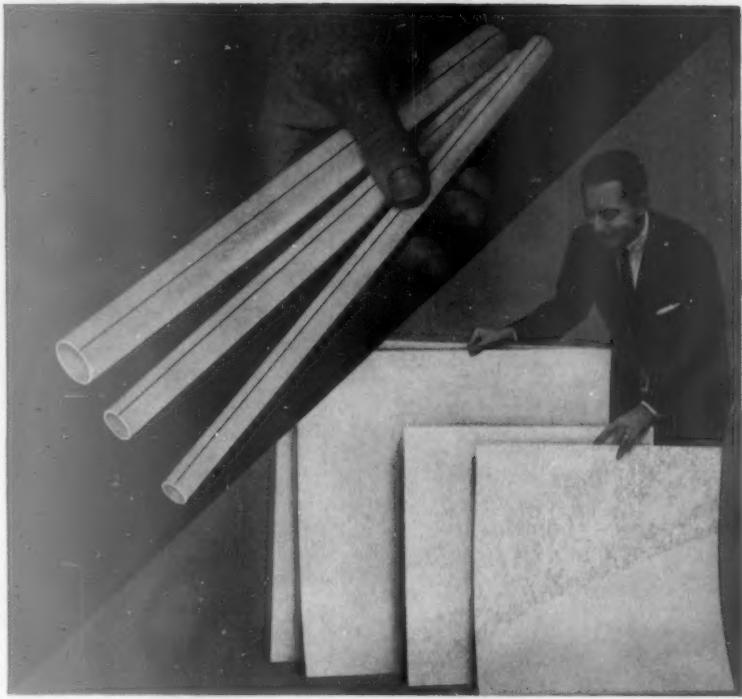
CHISHOLM-MOORE HOIST DIVISION COLUMBUS MCKINNON CHAIN CORPORATION

TONAWANDA, NEW YORK

REGIONAL OFFICES: NEW YORK, CHICAGO, CLEVELAND

In Canada: MCKINNON COLUMBUS CHAIN LIMITED, ST. CATHARINES, ONTARIO

For More Information Write No. 205 on Inquiry Card—Page 32



Color-coded thin-wall "Teflon" tubing, skived tape in 13 colors, bondable "Teflon" specialties—they're all part of the full R/M "Teflon" line available to simplify your purchasing through one large, reliable source.

TEFLON:

Where to get it fast

No need to restate the unique combination of electrical, chemical and physical properties of "Teflon."* You know that for many applications calling for high dielectric strength and/or resistance to chemicals and high temperatures, there simply is no substitute.

Big questions in your mind, then, are *where to get "Teflon" fast and who can best meet your specs.*

On both counts, the answer is R/M. A pioneer in the processing of "Teflon" into sheets, rods, tubes, tape and

machined parts, R/M offers you a complete "Teflon" service—a service that can help assure you optimum performance and reliability of critical components, plus prompt delivery in production quantities according to your schedule.

It will pay you to talk "Teflon" with R/M. Call the nearest R/M district office (listed below) or write Plastic Products Division, Raybestos-Manhattan, Inc., Manheim, Pa.

*Du Pont trademark for its TFE-fluorocarbon resin

R M

PLASTIC PRODUCTS DIVISION
RAYBESTOS-MANHATTAN, INC.
Manheim, Pa.

BIRMINGHAM 1 • CHICAGO 31 • CLEVELAND 16 • DALLAS 26 • DENVER 16 • DETROIT 2
HOUSTON 1 • LOS ANGELES 58 • MINNEAPOLIS 16 • NEW ORLEANS 17 • PASSAIC • PHILADELPHIA 3
PITTSBURGH 22 • SAN FRANCISCO 5 • SEATTLE 4 • PETERBOROUGH, ONTARIO, CANADA

SPECIALISTS IN ASBESTOS, RUBBER, SINTERED METAL, ENGINEERED PLASTICS

For More Information Write No. 206 on Inquiry Card—Page 32

How A City Saves

(Continued from page 55)

try standard. The point is, does the standard serve the function? A standard for the industry or for Philadelphia may not provide a satisfactory solution to Los Angeles' problems.

Who's Responsible for V.A.?

Who initiates value analysis studies? Who's supposed to do it in a small purchasing department which cannot afford a value analysis division. Industry studies show that only 3% of departments spending under five million dollars annually practice value analysis as such. In the five to fifty million range only 5 percent are able to devote organized effort to value analysis. In departments spending over fifty million annually, approximately one-third use cost or value analysis. This may be statistically correct, but don't you really have a value analyst in every good buyer and in every alert purchasing agent?

You are familiar with one of the four basic prerogatives of the purchasing department—the right to check the requisition against the need. This can cause a lot of trouble when you have poor inter-departmental relations or where poor industry or vendor relations exist. But if we put a new cloak around this prerogative, if we allow it to operate in an atmosphere of true cooperation between purchasing and the using departments we'll get an entirely different reception. It is a basic part of value analysis.

One of our buyers, who always wants to know "why" about everything and is in truth a practicing value analyst, had a requisition for the installation of a monorail and jib crane. Engineering drawings specified an 8" beam no. 3908 as part of the details. He tactfully raised the question as to why it must be a special 8" beam. Studies made with the cooperation of the requisitioner revealed that there was no real need for this special beam. Other size beams could be used. Offers were taken, one predicated on using the 8" special beam and another

(Please turn to page 94)



the growth of an idea

AVERY

pressure-sensitive labels
save time and money
for buyers everywhere

From a flash of American genius type start in 1935, to a world-wide corps of trained pressure-sensitive specialists, Avery's leadership has been due to a basic management philosophy of growth—not in terms of size alone—but in a capacity for constant change—always directed toward the continual improvement of pressure-sensitive products.

This concept guides Avery in creative research—in the development of new and better adhesives—and in the design and production of original self-adhesive products. The results are apparent in the ever-growing popularity of Avery's removable *Kum-Kleen* and *Perma-Grip* labels . . . its manual and automatic dispensers, labelers, imprinters—and in the exciting new Avery pressure-sensitive Metallics used for decorative trim, panels and nameplates.

Whatever business you are in—wherever you are—modern Avery Labels will improve the efficiency of your labeling. Trained Avery representatives are ready to serve you—with advice on pressure-sensitive labeling methods or on the design of a new product or service label.



Write for your free copy of Avery's new labeling catalog and a colorful brochure describing Avery's new pressure-sensitive Metallics that are gaining swiftly in popularity as decorative trim, panels, nameplates.



AVERY LABEL COMPANY a division of Avery Adhesive Products Inc.

For More Information Write No. 207 on Inquiry Card—Page 32

FEBRUARY 1, 1960

Here are but a few of the thousands of ways in which manufacturers are profitably using Avery Labels today



MAY WE SEND SAMPLE AVERY LABELS?

Removable *KUM-KLEEN* and permanent *PERMA-GRIp* labels are both available in practically any material including foil, aluminum, acetate, film, kraft, fabric, metallic coated or special stocks of many types.



AVERY LABEL COMPANY Div. 130
117 Liberty St., N. York 6 • 608 So. Dearborn St.,
Chicago 5 • 1616 So. Calif. St., Monrovia, Calif.
 Please send free Include KUM-KLEEN catalog and the *KLEEN* and *Perma-METALLICS* brochure. Include *KUM-KLEEN* and *Perma-Grip* sample labels.

Name _____
Company _____
Address _____
City _____ Zone _____ State _____

For More Information about ad on following page Write No. 208 on Inquiry Card—pg. 32→

integrated CRUCIBLE steel service



The customer needed plastic mold steel cut to his specs as fast as he could get it. The Crucible warehouse confirmed his order, gave him immediate deliv-

ery because it had both the steel and the saw (big 24" x 42" hacksaws which can slice a 40" block in 4-4½ hours).

maintains a variety of local facilities for handling customers' special requirements

"We regularly rely on the Crucible warehouse's equipment. Why, it would take us all day to cut steels they can cut in minutes. We've tried to do these cutting jobs ourselves and, frankly, we lose money nearly every time."

This purchasing agent's words are probably typical because countless companies, all over the country, rely on the 31 local Crucible warehouses for handling their special needs. Unusual cutting of specialty steel grades and sizes is just an example. Or, if a warehouse can't handle extras, such as forging, grinding, machining, boring, polishing, etc. itself, it arranges to have them done conveniently and economically outside.

It's entirely possible that your plant has these facilities. Even so, it can pay you to find out what the local Crucible warehouse has to offer. As one materials buyer put it:

"We have a 'get to know the suppliers' policy. I've visited the Crucible warehouse personally and made a list of its equipment. Here it is — under 'Suppliers' Facilities.' Two weeks ago, when all our saws were tied up, we had the Crucible warehouse cut the steels. They did it immediately, so my list paid off."

All Crucible warehouses maintain stocks, services and facilities to serve you. If you'd like to know more about them, phone or visit the warehouse nearest you — *any time*. Its facilities and services are part of Crucible's integrated operation, from ore to mill and warehouse delivery to you. *Crucible Steel Company of America, Dept. PB13, The Oliver Building, Mellon Square, Pittsburgh 22, Pa.*

STOCK LIST

Keeps you up-to-date on local stocks of specialty steels. Just ask the Crucible salesman to place your name on the regular mailing list.

One Source
For All
These Steels



Customers' Master Files quickly give Inside Account Salesmen details on your receiving schedules and special requirements.



Inside Account Salesmen keep reference sources handy — give you fast breakdowns of analyses, or heat-treating, machining data.



Fleet of trucks and special delivery vehicles maintained at each warehouse ensure prompt, nearby deliveries.



Full stocks of specialty steels enable warehousemen to ready your order for shipment overnight — or earlier.

TOOL STEELS—Water, oil, air hardening, shock resisting, hot work, plastic and die casting steels in all forms, including bars, sheets, plates, drill rod, hollow bars, forgings and flat ground stocks

HIGH SPEED STEELS—Crucible's famous "Rex"® steels: Rex Thrift Finish rounds, hot rolled and cold drawn flats and squares, drill rod, forgings, sheets, plates, and tool bits

STAINLESS STEEL—Bars, sheet, strip, wire, cold heading wire, metalizing wire, plates, angles

FREE MACHINING STEELS—Crucible Max-e!® rounds, hexagons, plates and broke die steel

ALLOY STEELS—bars, billets, strip and sheet

COLD ROLLED CARBON SPRING STEELS

DRILL STEELS—Hollow and solid drill steels

ALUMINUM EXTRUSION DIE STEELS

HOLLOW TOOL STEEL

WELDING AND HARD FACING ROD

PLASTIC MOLD STEELS

PERMANENT MAGNETS

— and many others

CRUCIBLE

STEEL COMPANY OF AMERICA

Branch Offices and Warehouses: Atlanta • Baltimore • Boston • Buffalo • Charlotte • Chicago • Cincinnati • Cleveland • Columbus • Dallas • Dayton • Denver • Detroit • Grand Rapids • Harrison • Houston • Indianapolis • Kansas City • Los Angeles • Milwaukee • New Haven • New York • Philadelphia • Pittsburgh • Portland, Ore. • Providence • Rockford • Salt Lake City • San Francisco • Seattle • Springfield, Mass. • St. Louis • St. Paul • Syracuse • Tampa • Toledo • Tulsa • Toronto, Ont.

How A City Saves

(Continued from page 90)

using a standard 10" I beam which, of course, had additional strength and stiffness over the 8" beam. Instead of costing \$440.00 the job cost \$357.00, with a net savings of \$83.00, simply because this astute buyer, while he was not thinking of himself as an analyst, actually was performing value analysis.

Name the Source

Many using departments still knowingly or unknowingly try to violate another one of purchasing's basic prerogatives—naming the source of supply. Sometimes their reasons are well founded. But in many cases their designation of a brand name may be based on sheer prejudice and in a few isolated cases on commercial bribery. Value analysis, gives purchasing a fresh approach, new solutions, new viewpoints to cope with this situation.

One of our buyers was working on stainless steel strapping. Com-

pany A had done an excellent job of selling its stainless steel strapping to the using department at a price of approximately 12 cents a foot. The users said no other brand would stand up like this one. In fact, "other brands would rust" and their operations would come to a complete standstill unless they were able to use this brand. You have heard this old story many times before on all sorts of items. Well, we changed our strategy. We didn't fall back on the old regular office memorandum outlining purchasing department policy. We used a new idea called value analysis. The buyer armed himself with concrete information and facts. He showed the department that their favorite, brand A, had a tensile strength of 114,955 PSI whereas brand B, which he could procure at just one-half the price, had a tensile strength of 126,750 psi. Further, he had an analysis made of the steel which showed that brand A was only slightly superior in nickel content. He assured them that brand B would

not rust. They had no comeback. We switched to Brand B at a 50% saving. Value analysis pays big dividends.

Many of you have found that just exercising your basic authority is often difficult because using departments feel purchasing is simply trying to put a feather in its own hat, comply with the law or take complete credit for savings. Value analysis sets the stage for an entirely new concept of what is actually the same job. Only those with whom you are working think it is different. Their participation and their faith in the purchasing department increase as they see benefits coming to them from purchasing's value analysis efforts. The purchasing department's stature grows and you begin to get compliance with purchasing policies not through ultimatum but by demonstration. After you get a good value analysis program going, you will find that instead of you having to go to the using department, that they will be coming to you for help on their problems.

I have used only a few scattered examples of value analysis to illustrate several avenues of approach. Value analysis really is not new. Ability to perform it has always been one of the attributes of a good buyer or purchasing agent. Many times he has performed the function without thinking of it as such. Many times he may have accomplished the task only in part. Perhaps now is a good time to reorient our people to the concept, restate the principles, give it a new name. It will help us do our basic job more painlessly, and make cooperative effort more palatable to using departments. They'll accept value analysis and work with us on it, because they can see real results from it. ► END

COST OF PREVIOUS SERVICE.....\$8.00 per week
COST OF TURN-TOWL SERVICE.....\$2.10 per week

ANNUAL SAVING \$306⁸⁰



Here is a typical case history of what happens when a consumer tests Turn-Towls against the towel service in use. This happened to a national firm's Buffalo (N.Y.) division.

You can save with Turn-Towl service too. Write for name of nearest distributor now.



For More Information Write No. 209 on Inquiry Card—Page 32

IN THE FEB. 15 ISSUE ...

"THE P.A.
AS
COMPANY
ECONOMIST"

Field rings were breaking brushes!

OUR HERO



GER-PAK Shipping Film plus NETTING

NEW all-weather protection TEAM!



Now TY-FAST Netting secures all products covered with GER-PAK Polyethylene Shipping Film against wind, weather!

Wind-whipped platforms, docks and exposed means of transportation are no longer enemies to your products in transit. Not when they're all-weather protected with GER-PAK Polyethylene Shipping Film secured with new TY-FAST Netting. Both team up to make sure your products arrive with that new "just manufactured" fresh look—fully protected against wind, weather, dust and water. Get all the facts—write us today!

LOW-COST PRODUCT PROTECTION! Film is tough yet lightweight, easy-to-handle. Comes in sheeting and tubing...seamless widths up to 40' wide! Mildew-proof Net in two sizes: 20'x100' and 32'x100' with loops for tying down!

GER-PAK POLYETHYLENE MIRACLE TAPE
Pressure sensitive. Grips best on plastic film, paper, metal, wood.

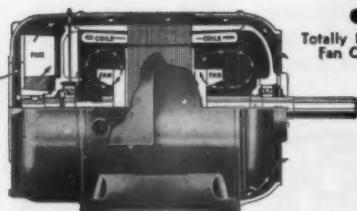
GER-PAK—the short way to say superior polyethylene film

GER-PAK®

Polyethylene Film for Shipping • High-Strength TY-FAST Netting
GERING PLASTICS division of STUDEBAKER-PACKARD CORP., Kenilworth, N.J.
For More Information Write No. 211 on Inquiry Card—Page 32
96



Type TEFC
Polyphase



Totally Enclosed
Fan Cooled

Custom Built . . . But NOT Custom Priced!

Here is the most successful development in Air Cooled Motors. Reduces friction 75%—cuts power costs. Handles any power load emergency without damage to motor. Always cool running for continuous service in high temperatures. Squirrel cage induction, high torque, low starting current. Fully ball bearing and quiet running too.



Yes, Electric POWER
at its Money-Saving
BEST — by VALLEY

WRITE FOR DESCRIPTIVE LITERATURE

• Other Models

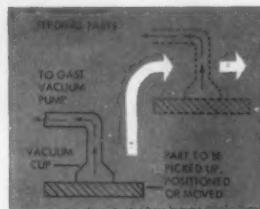
Type SN polyphase, High Torque, constant speed, continuous duty, squirrel cage induction.

Type AN single phase, constant speed, repulsion start, induction run, continuous duty.

VALLEY
ELECTRIC CORPORATION

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NEW

Gast Booklet ready to give you

"APPLICATION IDEAS"

on uses of air motors, compressors, vacuum pumps

Looking for new ways to improve methods—save time—or cut costs? This booklet may be valuable to you! With line drawings, it shows dozens of the basic principles of "putting air to work".

With photographs of our customers' products—from air mixers to data plotters—it illustrates each principle...and shows how Gast rotary Air Motors, Compressors and Vacuum Pumps provide advantages as original equipment or in plant use.

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ROTARY

- AIR MOTORS TO 7 H.P.
- COMPRESSORS TO 50 P.S.I.
- VACUUM PUMPS TO 28 IN.

"Air may be your answer!"

For More Information Write No. 213 on Inquiry Card—Page 32
PURCHASING

Better Buying For Better Research

(Continued from page 51)

can help develop specifications as well as build the unit.

"We encourage technical personnel to come to us to discuss their needs, even if they are vague and incomplete," asserts Wendt. "And we don't try to prevent anyone from suggesting sources, for in their investigations engineers often come up with good vendors, many of whom may be unique or unusual."

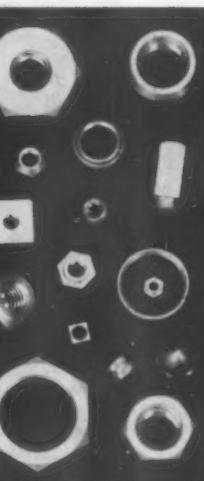
Avoids Paying Premiums

Purchasing does, of course, check and investigate all new vendors. Although Wendt will gladly go along with a suggested vendor if there are valid reasons, he will try to get competitive bids even when engineering has made a recommendation.

"We buy on a value basis," states Wendt. "But we don't inject value into purchases where it has no bearing. Take for instance a ring stand—basically it is just a cast base with a steel rod stuck in it. It has to be strong and shouldn't come apart. Given that minimum condition it's the price that counts." For this reason Wendt will take advantage of the chance to buy an 89 cent stand instead of one for \$1.25. On the other hand, Wendt wouldn't consider buying a cheap graduated glass cylinder. In fine chemical analysis the accuracy of the graduations is extremely important and is worth paying for.

Purchasing watches prices of standard materials with equal concern. "Although we buy in small quantities," says Wendt, "we buy as well as people who get ten times the quantity." Although there are no volume discounts in the organic chemical field, purchasing depends upon careful vendor selection to get the lowest prices.

"We are always on the lookout for good prices," says Wendt. "We check prices on purchase order acknowledgments, we check invoices, we continually compare price lists, and, of course, we are always on the phone to get the latest price information." ► END



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... both brass and aluminum ... we can help resolve your fastening or assembly problems by supplying *uniformly accurate turned nuts to your exact specifications*. To date, we have furnished more than 3,457 different types of special or odd size nuts, including miniatures, to customers making widely diversified products. Their satisfaction with our over-all performance is eloquently confirmed by repeat orders... plus orders for new items!

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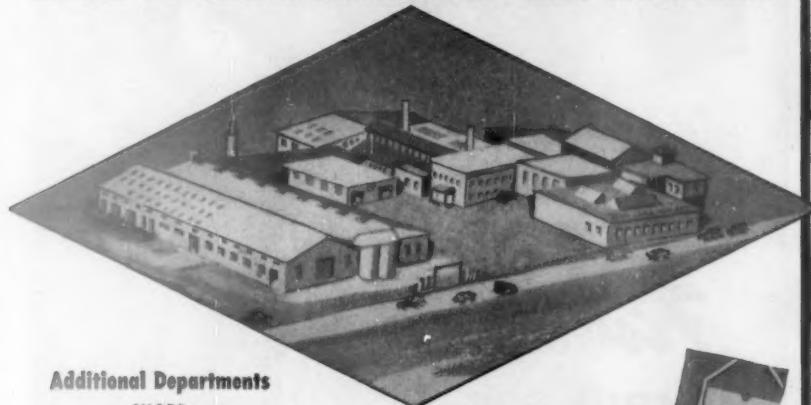
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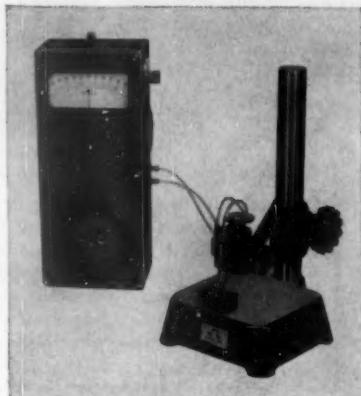
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Complete Pattern & X-ray Facilities



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AIR GAUGE**

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Special shapes or standard, rigid or flexible, in diameters from $\frac{1}{2}$ " to 16". Our engineers have developed advanced techniques that can save time and money on the right shape for your specific needs.

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Write for Bulletin 180 — and for prompt quotation send us your prints



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FEBRUARY 1, 1960

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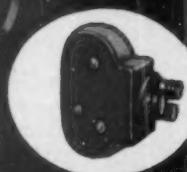
FOR ORDINARY SERVICE



Sandvik SPIRAL
springs provide long-lived,
low-cost service for
starters, guard return
springs, toys or tension
devices where constant
torque is not critical.

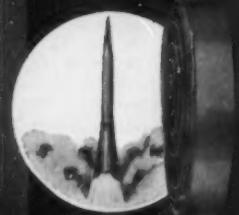


Sandvik CROSS-CURVED
springs have a dual tension produced by
winding the spring against
both its tempered spiral
and against a special convex
curvature across the
width of the strip. The
longer, more even energy
release provides uniform
power for timing instruments,
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movie cameras and other high
performance applications.



Sandvik 2R25 stainless
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quality which give 5 to 10
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atmospheres too. For
applications where performance
demand out-ranks cost, such as in
missiles, aircraft and special
instruments.

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These examples give you some idea of Sandvik's ability to supply the spring that fits your application in both performance and cost. You can draw on Sandvik's fund of over 30 years of

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For More Information Write No. 219 on Inquiry Card—Page 32

Employment Service

STAFF ASSISTANTS

Midwest, multiplant operation, manufacturing heavy agricultural and earth moving equipment has openings on corporate purchasing staff for top-notch assistants with proven experience and achievements in value-analysis and standardization, methods, procedures and systems. Potential for growth; imagination and drive; administrative ability are more important than many years on the job. Degree in engineering or business administration is pre-requisite. Excellent salary. This is a career opportunity with an aggressive and growing company. Write Box 403.

Experience: Taught math and social science four years. Officer in U.S.N.R. four years. For past 15 years with steel fabrication and forging co., with 2 to three million dollars annual sales. I set up and organized the purchasing, material control, traffic and industrial relations department. Am completely capable of handling any or all phases of purchasing, material control or industrial relations and supervising traffic. For past ten years I have been vice-president in charge of purchasing, material control and industrial relations. Age 44.

Education: B.S. and M.A. in education. Will relocate.
Write: Box 104

Experience: Fifteen years experience in all phases of purchasing and material control. Includes procurement of raw materials, castings (ferric & non-ferric), stampings and fabricated parts. Capable of setting up efficient purchasing and material control system. Member National Association of Purchasing Agents.

Education: Two years night college—special course in material procurement. Will relocate.
Write: Box 112

Experience: Three years expediting electronic parts—three years purchasing office equip., supplies—services, electronic parts—two years supervisor of data processing unit—customer service and sales experience three years.
Education: Two years night college—various company sponsored courses. Will relocate: Phila., Pa. area.
Write: Box 114

PURCHASING EXPEDITOR

to do the follow-up of work in process (both inside and outside of the office) and buying. Knowledge of graphic arts essential. Production and/or purchasing experience helpful. Ability to work under pressure of deadlines important. Attractive starting salary. Permanent job. Exceptional opportunity to advance. 21-year-old, rapidly growing, major company. Generous employee benefits, including Profit Sharing, "Major Medical" insurance and retirement plan. Chicago location. You may apply by sending resume. Please include work history and current earnings. All replies will be held confidential. Write Box 402.

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Requirements: Graduation from an accredited college or university and at least two years of full time purchasing experience in a large private or governmental agency. Salary \$549-\$686. Examination date: February 27, 1960 (tentative)—contact San Mateo County, Civil Service Commission, Court House, Redwood City, Calif.

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Listings in this department are offered without charge. Both purchasing department personnel interested in changing jobs and employers in search of replacements or additions to their departments may take advantage of this service. When writing, specify whether you want the applicant's form or the employer's form. Address all correspondence—whether for forms, or in answer to an employment advertisement, to: Box No., Employment Service Department, Purchasing Magazine, 205 East 42nd Street, New York 17, New York.

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Midwest, multiplant operation, manufacturing heavy agricultural and earth moving equipment, needs top divisional purchasing managers. Must have proven record as administrators, with thorough knowledge of modern materials management and control systems. Experience in value analysis and standardization necessary. Degree in engineering or business administration is a prerequisite. Excellent salary and incentive compensation. This is a career opportunity with an aggressive and fast-growing company. Write Box 404.

Experience: Ten years varied buying experience including two and one-half years as manager of purchasing of department making purchases of over \$3 million annually. Have purchased steel, castings, precision machined parts, screw machine items, commercial standards, electronic parts and assemblies, and all MRO supplies.

Education: Certificate in production, planning, military service school.
Will relocate.
Write: Box 115

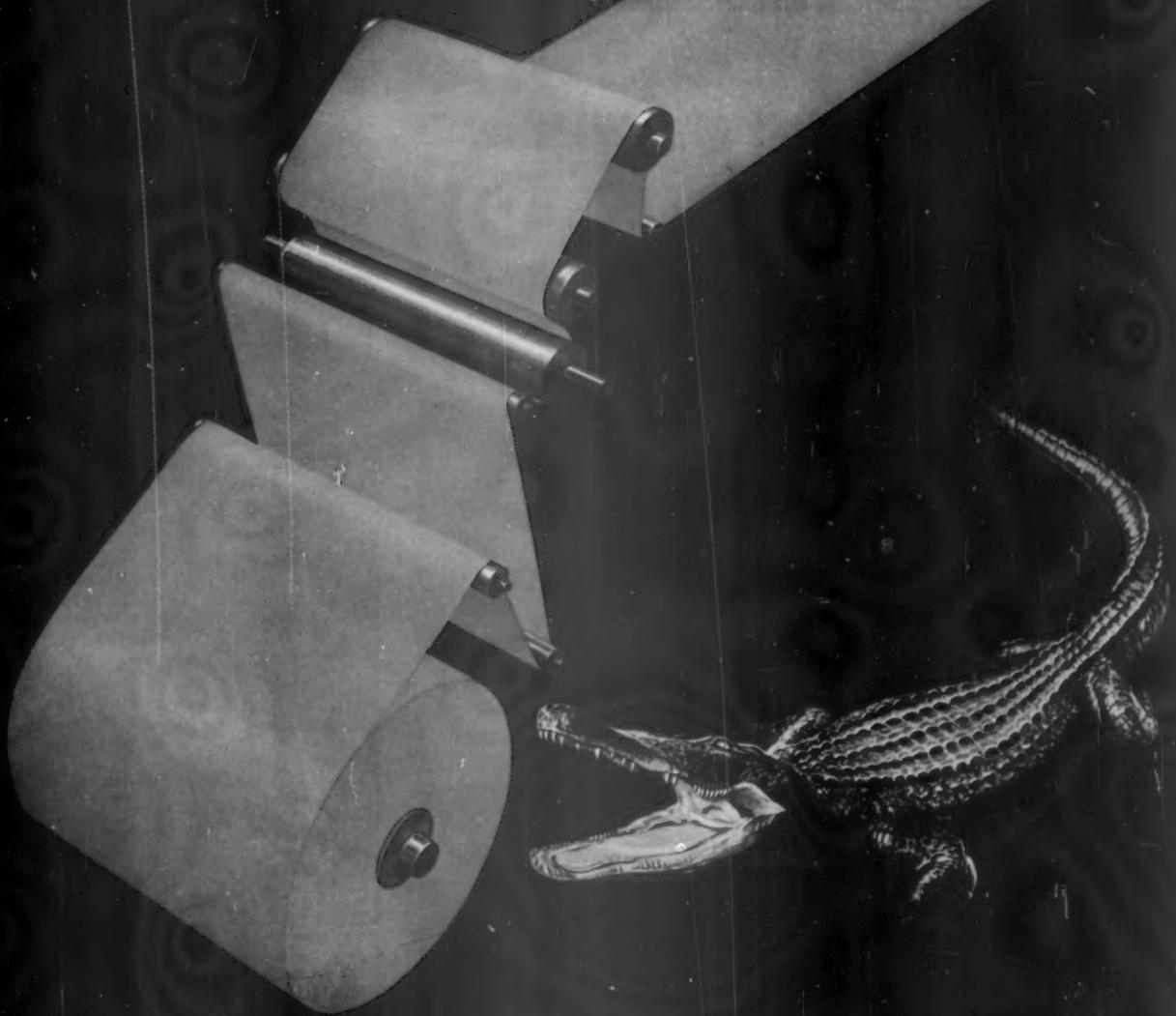
Experience: Two years and seven months as buyer and expediter for constructional engineers. Previous experience in England—twenty-two years with nationalized industry, covering all features of sales and service to consumer, including purchasing for plant.
Education: Grammar school in England—supervision principles course and business law course, Rutgers University.

Will relocate.
Write: Box 113

Experience: Five years as purchasing agent and contract administrator with off-shore procurement agency of U. S. Government in England, where presently employed. Experienced in procurement of capital equipment and stores supplies. Sound knowledge of legal aspects of contracting. Three years in sales with European offices of international manufacturing corporation. Fluent social, commercial and technical French.

Education: Graduate of American high school, Paris, France; University of London Matriculation.
Will relocate: Anywhere in U.S.A.
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What makes GATOR HIDE[®] the world's most widely used wrapping paper?

Two factors explain Gator Hide's long-standing popularity for automatic machine wrapping—1. full yardage and 2. consistent high quality.

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Gator Hide kraft is made from 100% virgin sulphate pulp. It's tough. Rugged. Built to take

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Southern Kraft Division INTERNATIONAL PAPER New York 17, N.Y.

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CAR WHEELS



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OUR Fiftieth YEAR

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from design to
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603 SPRUCE STREET, AURORA, ILLINOIS

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FEBRUARY 1, 1960



BENDING



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Better Machines—Better Blades

ARMSTRONG-BLUM MFG. CO.

"The Hack Saw People"

5700 Bloomingdale Ave. Chicago 39, U.S.A.
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103



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CITY _____ ZONE _____ STATE _____



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gives you this 18 Point Protection
against valve repairs

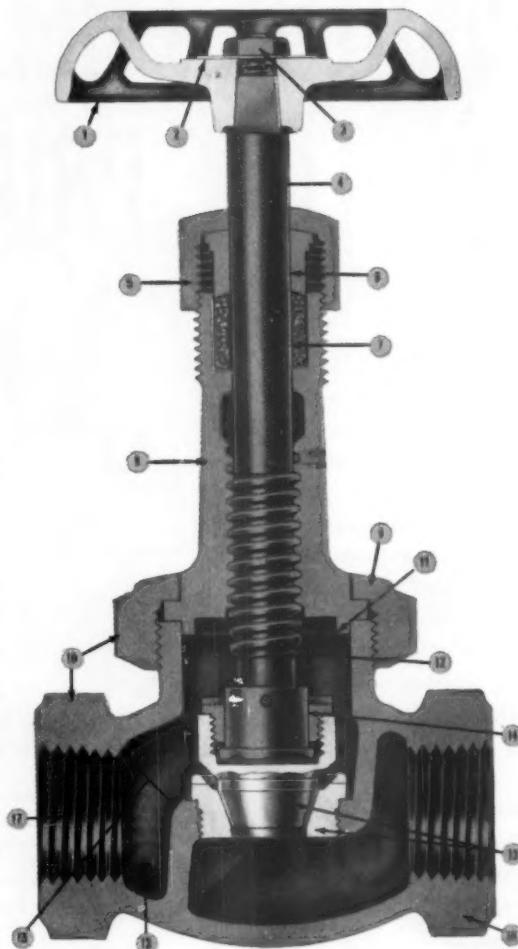
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THROTTLED STEAM with its destructive erosive effect on a valve seat . . . hard, seat-cutting substances like rust tubercles, boiler scale, pipe chips . . . such valve destroyers have little or no effect on a Jenkins Bronze Plug Type Valve. Jenkins 500 Brinell Armor Seat defeats them.

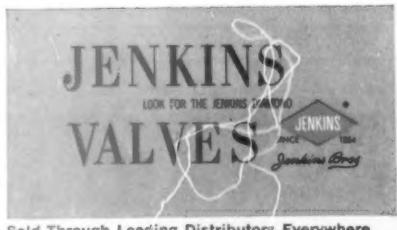
There's much more to the durability of these valves than the seat. Jenkins gives you 17 other superior features that contribute to long-life and completely satisfying service. All are important to any valve user who wants maximum economy, and only Jenkins gives you all of them. Send for literature which gives full details about them.

Still more protection against valve repairs comes from superiorities which cannot be seen in any picture of a valve: The quality in the castings . . . the precision machining . . . the rigid inspection and testing which every Jenkins Diamond-marked valve undergoes.

You have many sound reasons for specifying Jenkins when the service calls for PLUG TYPE Bronze Valves. And you pay no premium for them. Write us or ask your Jenkins distributor for information folder.



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2. VALVE INDEX PLATE
3. SECURE WHEEL NUT
4. SPINDLE OF HIGH TENSILE BRONZE
5. LARGE PACKING NUT
6. SELF-ALIGNING PACKING GLAND
7. DEEP STUFFING BOX
8. HEAVY BONNET
9. HUSKY UNION BONNET RING
10. UNIQUE WRENCH LUGS
11. CORRECT ALIGNMENT OF PARTS
12. BACK SEATING PROTECTS THREADS
13. PLUG AND SEAT RING OF CHROMIUM STAINLESS STEEL
14. LOCKNUT
15. FULL DIAPHRAGM-SHELL CLEARANCE
16. LIBERAL DIAPHRAGM WALL CLEARANCE
17. FULL LENGTH PIPE THREADS
18. EXTRA HEAVY BRONZE BODY



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